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Amiga CD!

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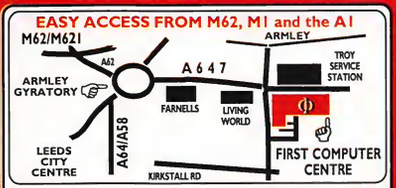

From the M62 take the M621 and follow the turnoff for Leeds/York. This will merge with the Armley gyratory.

From the M1 follow signs for the M621 (ignore exit for town centre). Take A643 Elland Rd turnoff from M621. Follow signs for A58. This merges with Armley gyratory.

From the A1 take the turnoff for the A64. This merges with the A58 (by-passing Leeds town centre) which meets the Armley gyratory. After "Living World" at traffic lights take a right, left, left again, & 2nd left to get to FCC.

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The Professional answer

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VXL 30 25 Mhz (for A500).....£184.99
VXL 30 40 Mhz (for A500).....£259.99
VXL 2 Mb Ram Board (for A500).....£189.99
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for the A500/A500+& A1500/2000
28 Mhz, uses A500 side port so there is no internal fitting

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50	£20.99	£22.99
100	£37.99	£42.99
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XCAD 2000.....£97.99
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Techno Sound Turbo.....£18.99
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Amos Professional Compiler.....£24.99
Bliz Basic 2.....£53.99
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SAS C Version 6.5.....£234.99

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Point of Sale Demo 1200 only...(PDA018) 1 disk.£1.50
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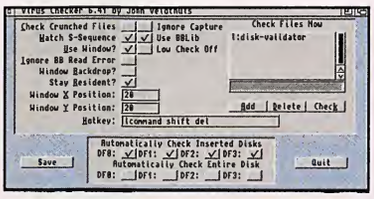

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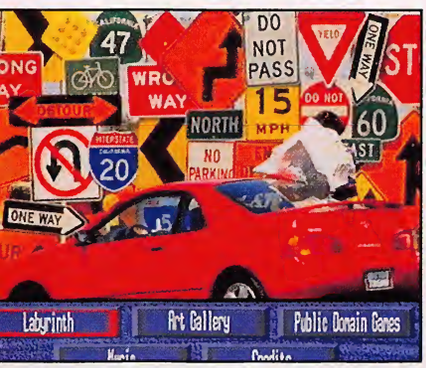

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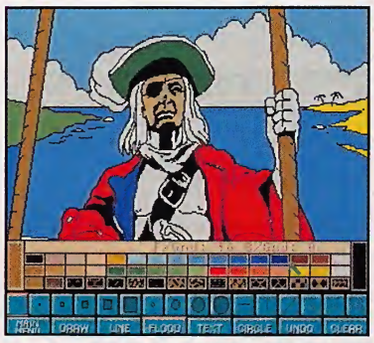

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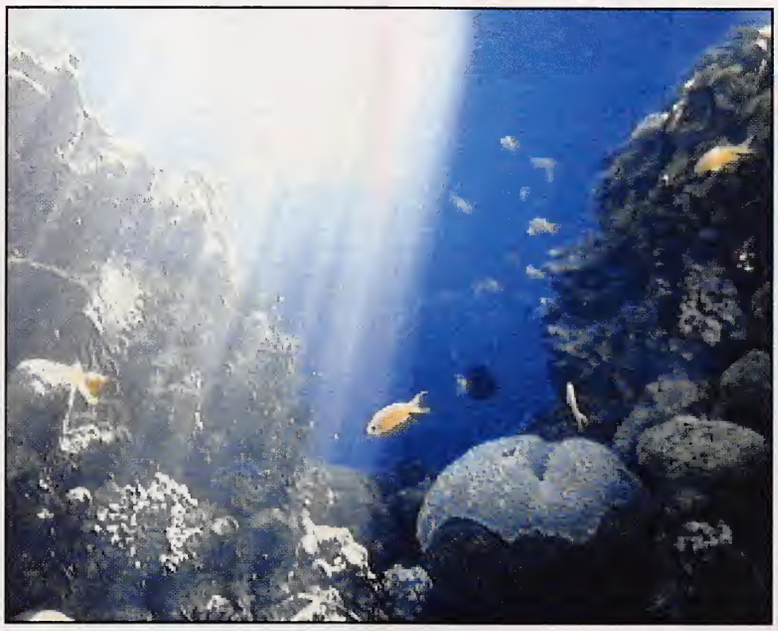

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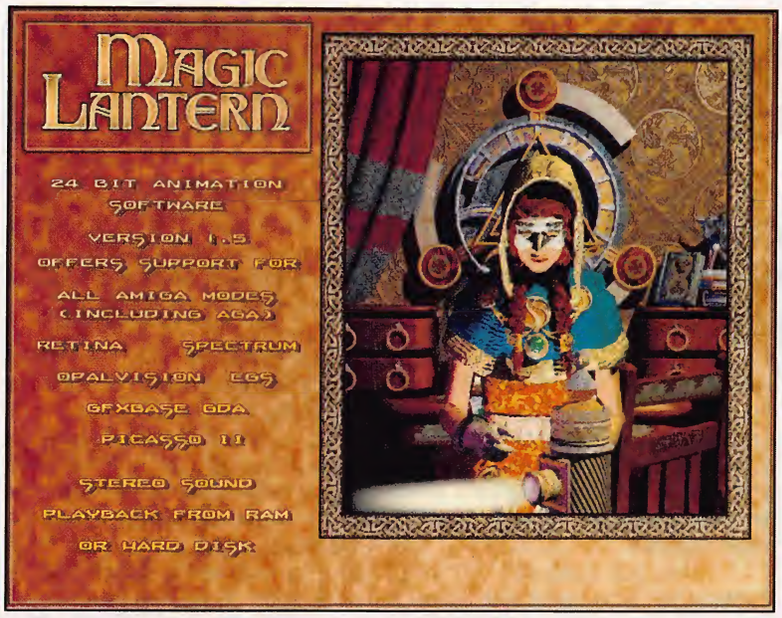

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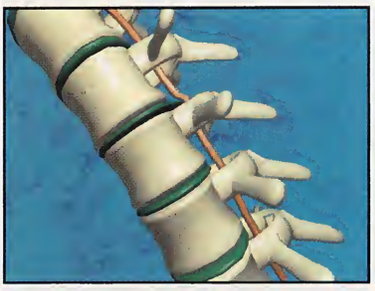

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AUI Limited

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Subscriptions Address: ***AUI*** Subs. Dept.
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Pear Tree Road, Bradley Stoke,
Bristol BS12 0BQ
Telephone: 0454 620070
Fax: 0454 620080

Published by ***AUI Limited***

Origination and Colour Reproduction:
Ford Graphics, Fordingbridge, Hants.

Distributed by COMAG Ltd

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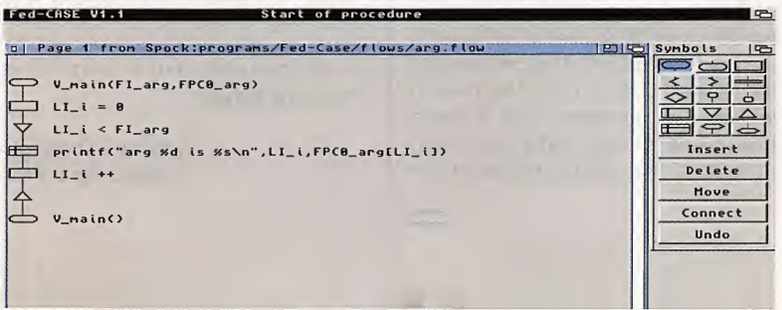
Amiga User International - an independent magazine for Commodore computer users - is not connected in any way with Commodore Business Machines UK. It is published 12 times per year on the first Thursday of the month. The publishers do not accept any liability for any incorrect statement or errors contained in material that may be produced from time to time.

Printed in the U.K.

Centurion Publications
Managing Director: Brian Grant
Publisher: Nick Randolph



The Amiga Dimension

Will the Amiga survive? Managing Editor Antony Jacobson examines Commodore's current crisis.

This is the saddest Amiga Dimension I've had to write. Because it may be the last in which Commodore and the Amiga are the way we have known them.

It's 35 years or so since Jack Tramiel, a survivor of the Auschwitz death camp, who had emigrated from Europe to Canada, started Commodore. The story is that he began by repairing typewriters before making them. Then getting early into electronic calculators which were then almost as expensive as computers are now, he bought a factory in the USA which manufactured the CMOS chips they needed. Over stretching himself, Commodore suffered the first of its regular financial crises and Tramiel found a saviour in businessman Irving Gould.

The story is told that finding the factory could produce more CMOS chips than the calculators needed, they got the idea of putting them into computers - and an electronic giant was born. Their first computer, Commodore's Personal Electronic Transactor, the now legendary PET, long before IBM, put a computer on desktops of the world's companies.

The Amiga

Then Commodore hit the consumer market with the Vic 20 - having all of 20k of RAM. But it literally sold a million, the first computer to do that. Commodore followed it with the C64 which is still selling today and has probably entered 14 or 15 million homes, schools, factories and businesses.

In spite of those two successes CBM by 1984 had problems, Tramiel, it is said, wanted his sons to take a bigger role in the company. Gould did not. Tramiel walked out and bought the remains of Atari and tried to buy a development company that had a hot new product and money troubles. That company was Amiga.

The Amiga team borrowed some cash from Jack Tramiel at Atari but did a deal with Irving Gould at Commodore, which must have given CBM's boss some satisfaction. CBM ended up paying the cash back to Tramiel's company who had by that time started their own ST development based on the same Motorola 68000 chip used by Amiga. In 1985 out came the Commodore Amiga 1000 and the rest is history. However, since the heady, profitable days of the PET, the Vic 20 and the C64, Commodore has never achieved rock solid success.

Disasters like the C16, the Plus 4, problems with PCs, failure to upgrade the 500 quickly enough or really establish the Amiga in business or profitable areas such as graphics, the CDTV fiasco and the inability to lead the field again by bringing out cutting edge developments like the triple AAA quickly at competitive prices all contributed.

However, most serious of all, was a constant revolving door of top brass who somehow got across Irving Gould, including one president who was escorted from CBM USA headquarters by the security guards and sued CBM for - and apparently won - $9 million, has meant that Commodore stumbled downhill to its present state. Even though over the years the Amiga has continued to sell and sell.

The Amiga team borrowed some cash from Jack Tramiel at Atari but did a deal with Irving Gould at Commodore which must have given CBM's boss some satisfaction.

And what is CBM's present state? Commodore will probably never be the same again. And before you shout "Hooray!", that means that at this moment the Amiga is in danger of disappearing with Commodore who have had to get protection from the Courts in Bahamas where for tax reasons it was corporately registered. Protection from whom? Apparently from the banks who lent it money to go on through the debts it has piled up over recent years, and protection from creditors to whom it owed money.

Squashing the Amiga

The unconfirmed but widely believed story is that Philips, knowing of CBM's dire financial position, made an offer for Commodore. The logic would seem to be of "squashing" the Amiga, then with the CD 32 out of the way their limping CD-I would have a better chance of success. It is suggested that when the banks heard of this offer, being bankers they wanted to grab whatever they could - bankers are notoriously stupid, shortsighted and prone to panic.

They are supposed to have insisted that Commodore take the offer - which wasn't thought by Irving Gould and Medhi Ali, CBM's executive boss, to be acceptable. The big instituitional shareholders, insurance companies et all, who really owned the largest part of CBM, got scared and dumped their shares. And CBM's stock market value fell like a stone. So the banks threatened to call in their loans.

Commodore decided that the only way out was to sell themselves off - or the Amiga technology - to another company and asked the Court in Bahamas to put up a fence around CBM against the banks and creditors and give it time to fix a deal.

I am told, the same day that Commodore hit the skids into the Bahamaiam court, Philips announced a big new marketing drive worldwide. Wow! What a coincidence!

Profitable UK

As I commented last month, a number of big companies have shown interest and lots of small ones have since called Commodore hoping either to buy the rights to the Amiga as a stand alone or incorporate the chip sets into other products.

The irony, for us in the UK, is that Commodore here is a profitable entity. It is still, as of the time of writing this, in business. The same is true for Germany and other European countries. The staff, in the UK, are continuing in a calm and even confident way. The trouble, it seems, is at the heart not the limbs of Commodore.

The Amiga is a global brand that has considerable value, particularly with the tremendous loyalty the machine has developed among its 5 or 6 million users. But any major corporation that takes over must invest in the next generation of processors like the PowerPC chip from Motorola. It will need to strengthen the Amiga's image and provide extra marketing muscle. It may find it necessary to make a very sharp separation of identity of the Amiga between the home/console market and the profitable professional applications Amiga potential in such areas as video and multimedia. It perhaps should concentrate on the successful UK and the rest of Europe first before even considering the tougher USA.

Most of all it will need to give the wider buying public a much more recognisable sense of the Amiga's presence as a real contender with the PCs, Macs, CD-I, 3DO or the other emerging multimedia platforms. As the saying goes, 'If you've got it, flaunt it'.

It has been said that the Amiga has survived despite not because of Commodore. The Amiga is undeniably a brilliant computer. And when one company who were interested in buying the Amiga asked why they should, they were told, and not by CBM, that if they didn't, somebody else would.

I still think that is very likely. The Amiga and CBM in the UK and Europe are commercially viable and so deserving of survival even in this ruthless market-driven world.

Rumours

One UK PC magazine commented contemptuously that when they had asked for details "of the company's demise." Commodore's reply, in the UK, was "Rumours of our death have been greatly exaggerated," protested a spokesman, banging furiously on the lid of a large pine box.'

Well, this is a sad Amiga Dimension because corporately CBM, whom I think of somewhat irritatedly like an old friend who drives you crazy with frequently silly behaviour, might be close to falling into that pine box. But the Amiga, its greatest asset, should survive. There are some things, natural justice seems to say, that are just too good to die before their time. And the Amiga, I expect you will agree, is one of them.

So don't worry, you will find *AUI* here next month to keep you informed of various stages in the probably still continuing and, we hope successful, saga. And we'll still be telling you what to use on your Amiga and how to make the most enjoyable and effective use of it. And we will go on doing that, I hope, for a long time yet. When we stop, perhaps that is when you should really start to worry if the Amiga will survive..

Antony Jacobson
Managing Editor

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AUI Superdisk

Welcome to the July 1994 SuperDisk! Two big changes this month, both should be to your advantage. Gary Fenton guides you through this month's digital delicacies.

There are two things you should know about SuperDisk 39. Firstly, the disk uses the FFS (Fast Filing System) which means the disk can hold an extra 50k of data, but it also means that die-hard 1.3 users can't access the disk, so it's only 2.x and 3.x compatible. Sorry.(Time to upgrade?) However, all is not lost for those with access to CDTV (with keyboard) or A570s. We've put the 1.3 programs from the SuperDisk on the cover CD. So you can strip them off and use them. What about that for technology?

Secondly, we're not using the Commodore Installer program (hooray!) because it was causing too much confusion with you lot and only one program could be unarchived at a time.

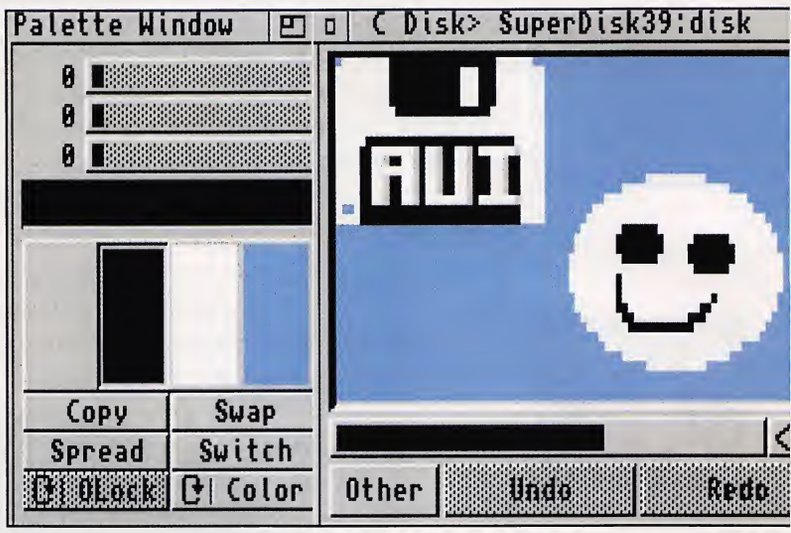
Instead we're using GuiArc which is Freeware and was programmed by Patrick van Beem from The Netherlands. It's very user friendly and allows you to unarchive as many of the programs as you like in just one go! Wow! Here's what to do:

1) If you don't have a hard disk then please format two blank disks. See your Amiga Workbench manual for more details.
2) Now, reset your Amiga and boot up from the ***AUI*** Coverdisk. Hard disk users don't have to do that, just insert the Coverdisk when you are on Workbench. (If hard disk users encounter problems then boot from the Coverdisk.)
3) Double click on the SuperDisk 39 disk icon and then double click on the GuiArc drawer icon. Do NOT click on the SuperDisk Install icon! Finally, double click on the GuiArc program icon and after 10 seconds or so the GuiArc program will appear. Close the "About GuiArc" information window in the center of the screen by clicking on it or clicking on its close gadget.
4) Note that there are two sides to this window and both sides look the same. On the LEFT side click once on the button marked "DF0", assuming the Coverdisk is in your DF0 drive. Wait for the computer to read the disk directory and then double click on the word "Programs" (it's in blue) that appears in the directory listing on the left side of the screen. "Programs" is the directory that the archived programs are stored in.
5) The right side of the screen should be showing the contents of the RAM Disk which is its default directory. This means that the programs on the left will be unarchived (decompressed) to the RAM Disk on the right. You need at least 1.3 megabytes of free RAM if you want to unarchive all of the programs to the RAM Disk in one go. A1200 owners and anyone else with at least 2Mb total RAM should be okay.

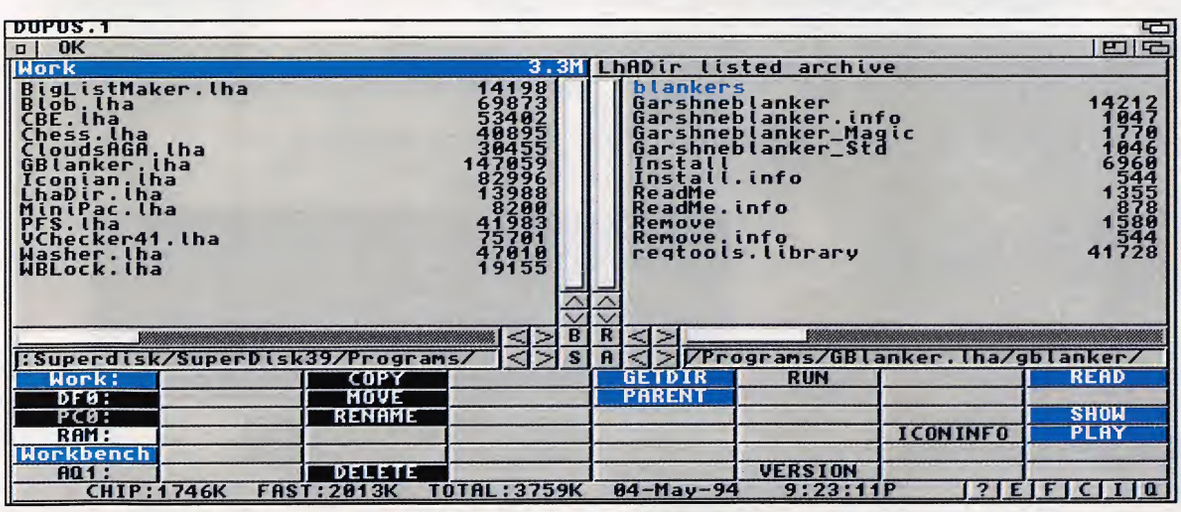
To change the destination directory from RAM Disk, just click on one of the device buttons at the bottom of the right hand window under RAM Disk. If the name of your drive isn't there then just click on the DRIVES button on the bottom right half of the screen. A list of your mounted drives appears, so just click once on the drive you want to use. If you have a hard disk called Work: then click once on Work: when its name appears in the window. You can then choose a suitable destination directory on your hard disk if you like.

Floppy disk users must use the RAM Disk (the default) or an external disk drive (inserted with a blank formatted disk) as the destination device.

6) Click once (on the left side) on the names of the programs that you wish to unarchive. You can select as many you want as long as you have enough free space on the destination drive (on the right). If you don't know how much space you have free then just try selecting a few files to start with and see what happens. Please bear in mind that all of the programs will NOT fit onto a single floppy disk, except a high density disk if your computer can use them.
7) Now that you've selected some files to unarchive, click once on the button marked Ext/Cp on the LEFT side of the window. Or you can simply press E on the keyboard. A window will pop up where you can follow the computer's progress. The window will disappear when everything is finished.
8) Hard disk users can quit the program and use the new programs which will be on the hard disk. If you unarchived the programs to your RAM Disk then you must now



Chad Randall's fabulous Iconian icon editor.



MinPac - Fun on your Workbench screen!

No.39

To copy the programs from the RAM Disk, quit from GuiArc and double click on the Ram Disk icon which is on your Workbench screen. You'll see all of the new programs appear which you've just unarchived. Insert a blank formatted disk and drag the new program's icons from the Ram Disk over to the blank disk's icon. The Amiga will copy them onto your blank disk. Only half of the programs will fit onto a single disk so have another empty disk ready. That's it!

GBlanker

This is no ordinary screen blanker because it's made up from 13 different screen blankers that do different things when your Amiga hasn't been touched for certain amount of time. Some blankers are weird while others are really interesting to watch.

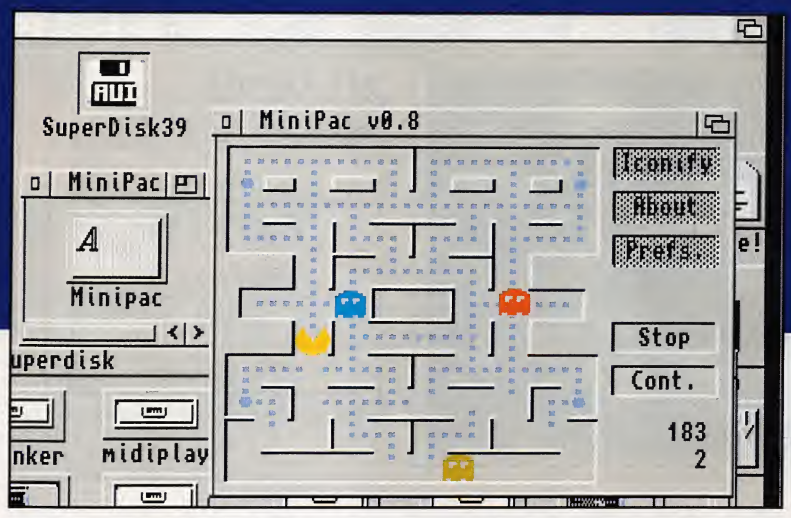
Documentation

Most of the programs are provided with a documentation file, either as plain ASCII text or an AmigaGuide file which can be read using MultiView. We strongly suggest that you read these files which normally tell you how to install and use the programs that accompany them.

If you double click on a text file from Workbench then the computer will try to load the text viewer program which is named in the icon's ToolType. The default text viewer is "c:more" for text files and "MultiView" for AmigaGuide files. You can load the text files into most text editors and word processors, or you can change the ToolType to use the text viewer of your choice. (See your Workbench manual regarding ToolTypes).

Alternatively, copy the program More from the Coverdisk's C: directory to your current C: directory.

copy them onto a permanent disk, like a floppy disk, or else they will be lost when you reset the computer.



LhaDir.DOpus is very handy if you have Directory Opus.

The installation script that comes with GBlanker uses Commodore's Installer which it assumes is on your Workbench disk. If you don't have Installer you can just run GBlanker by clicking on its icon which I added for you. It needs reqtools.library (supplied).

Iconian

This is a fantastic icon creating package written by Chad Randall who very kindly finished of this latest version of Iconian just for readers of *AUI*! Thanks a lot for that, Chad!

It runs on Amigas with Workbench 3.x only (1200, 4000) and provides loads of painting features that you would normally find in a top paint package. Iconian is Shareware so if you like Chad's program and you send him the $10 registration fee, he'll send you his thanks and a key file which unlocks extra features in Iconian.

LhaDir.DOpus

If you've got Directory Opus then you'll love this little program which enables you to manipulate Lha files without having to unarchive them. You need to run RexxMast (supplied with Workbench) and copy the Lhadir.dopus file into your Rexx: directory. Read the instructions on how to configure DOpus to use these clever new commands.

Virus Checker 6.41

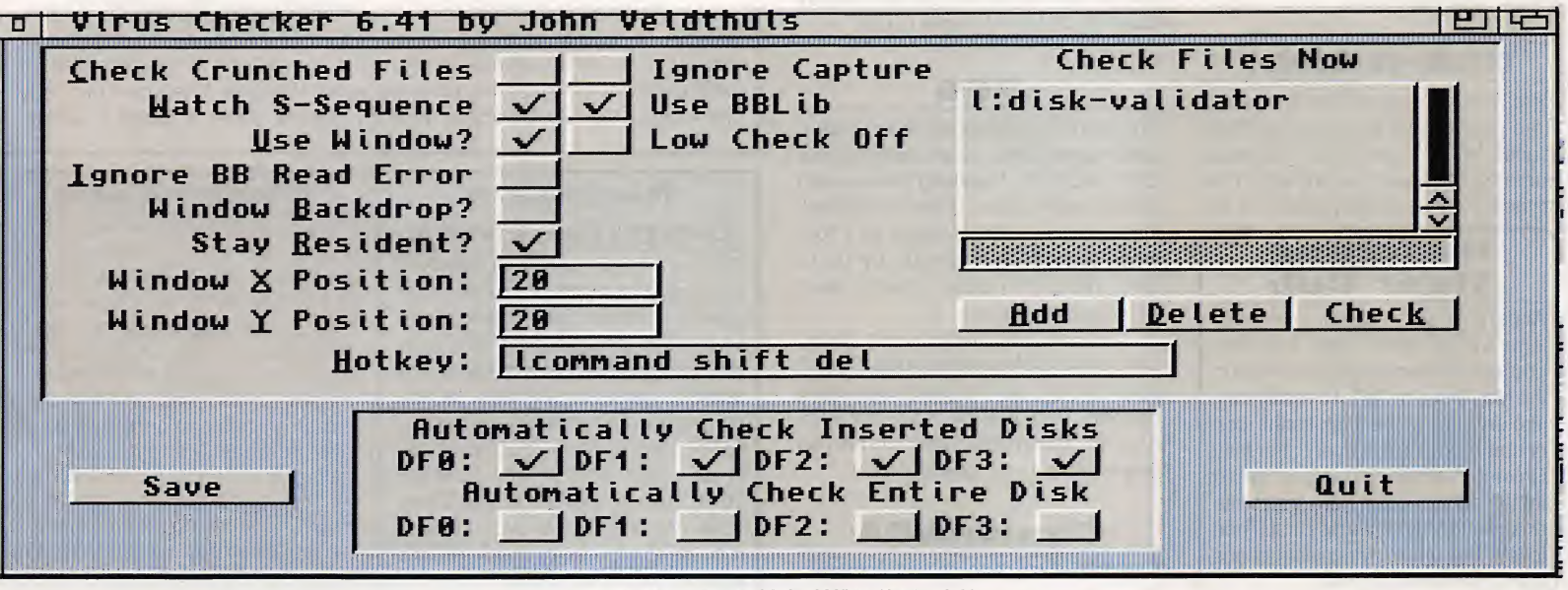
It's been a while since *AUI* has put a virus killer on the coverdisk, so now is a good a time as any. This is the very latest version which now uses brain files and is alert to all new viruses.

MiniPac

This is a tiny Workbench Pacman game which is only 8k in size! Click on the start button to begin a game and use the cursor keys to control the character. Different levels can be played by selecting a new one from the Prefs window which appears when you click on the Prefs button.

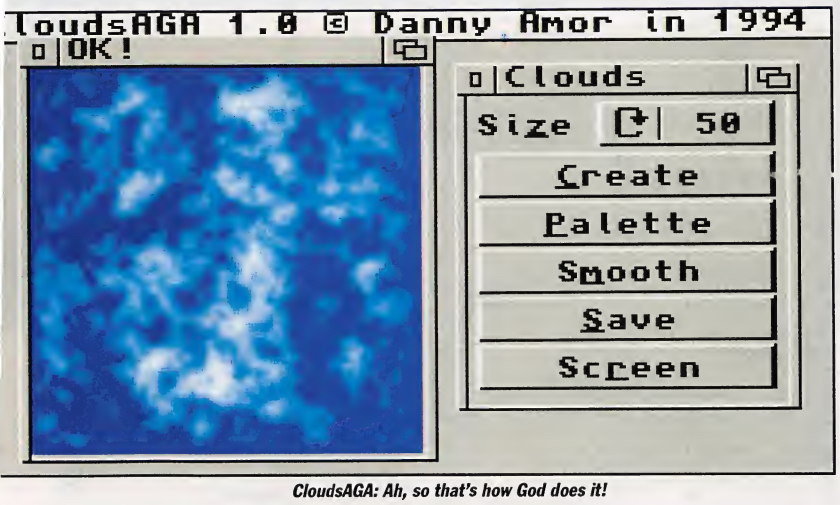
BigListMaker

Have you ever tried finding one particular file that you know you've got hiding in your disk box someone but can't remember where it is? Big List



It's big, bad, mean, and it's back! Virus Checker 6.41

AUI SUPER DISK NO.39



CloudsAGA: Ah, so that's how God does it!

Maker makes a big list (!) of all the files held on all your disks and hard disk and turns it into a library. Then if you ever need to find a specific file just ask BigListMaker and it'll tell you exactly which disk and directory you'll find your file in.

CBE 2.3

The ClipBoard Enhancer is a wonderful Commodity which makes up for the fact that nearly all programs use just one clipboard unit when the Amiga actually has 256 of them!

If you multitask and perform a "copy" operation in your text editor and then do another "copy" operation in another program, the first thing you copied will be replaced with the second thing you copied. This shouldn't have to happen, not now that you've got CBE!

WBLock

A simple program to stop simple people from using your Amiga without your permission! Drop this into your WBStartup drawer and Workbench becomes password protected. It'll stop little brothers and sisters from using Workbench, but not loading and playing floppy based games.

Blob-A-Blob!

A great platform game from AmigaLive. Grab your joystick and cover all those spaces to carry on to the next level. Some squares have buttons which can be activated by pulling down on the joystick. The music's great and the action's fast, but watch out for those nasties!

If you have trouble running this game (I do on my 1200) then reset your Amiga and immediately hold down both mouse buttons to enter the Early Startup Screen. Go into the Display Options screen and select the Original chip type and exit the screen. Now go into the Boot Options screen and select Disable CPU Caches and exit once more and then click on Boot. Now load Blob and enjoy!

Installing Tiger Cub

Apparently some people had problems installing the Tiger Cub program which was given away free on the May issue of ***AUI***. To rectify this, just drag the SuperDisk Install icon on this month's disk over to the May Coverdisk which will replace the old Install script. Make sure you write enable the May Coverdisk first. Then follow the unarchiving instructions in the May issue of ***AUI***.

Chess

I shouldn't have to tell you what this game is or how to play it! Just load it up and try to beat the computer - I bet you can't! There are pull down menus which alter the gameplay and even a hint feature if you get stuck.

Washer

Do you have a dirty monitor? Are you simply not bothered to clean it? How would you like someone to clean it for you? We've included a monitor cleaning service with every Coverdisk - just load this program through Workbench and you're monitor will be professionally cleaned. But don't forget to pay...

PFS

This is the Professional Filing System which is an alternative to Commodore's OFS and FFS. Installing this system and formatting your disks as PFS will improve disk writing speeds by 2 to 3 times and reading speeds by up to 50%. Also, PFS disks shoukd never become unvalidated.

PFS only works with floppy disks and is a Shareware product. You'll be surprised how fast your floppy disks become, but please read the PFS documentation first. We cannot be held responsible if you lose any data.

CloudsAGA

CloudsAGA is a calm, peaceful program that generates random clouds on the screen. The idea is that you can use these lovely images as backgrounds and textures in other programs like DPaint, Scala, MediaPoint, or whatever.

You can choose any screen mode you like in up to 128 colours and save the screen as an IFF image. To do this you need to have the iff.library in your Libs: directory. If you don't have one already then there's a version of this in the libs: drawer within the CloudsAGA drawer itself.

NO SUPERDISK?

Yes, consult your newsagent! But we've had so many complaints about readers not getting disks that we're trying out a new idea. We can't be responsible for what happens at the end of a long chain of different organisations who handle the magazine when it leaves us, especially outside this country. We know that someone appears to be taking disks off copies of the magazine in some countries but we don't know whether they are being stolen or taken off as a protection against a large sales tax having to be paid.

So what we propose is this: if you live in the U.K. you will have to consult your newsagent in the usual way. However, if you are outside the U.K. we want to help you get the advantages of the SuperDisk so if you send us £1 in sterling (International Money Order etc) to cover postage etc and we will send you the month's SuperDisk. Okay?

Faulty Disk?

In the event that your ***AUI*** coverdisk fails to load (because of a read/write error etc), please return it to the following address for a free replacement. Allow 28 days for delivery.

***AUI* Faulty Disks, 138 Lambeth Walk, London, SE11 6EW.**

Don't forget to include your name and full postal address in BLOCK capticals. Collector's tokens from the back of cereal packets are not required, thank you.

Burning Chrome BBS

Thanks to Simon Gardner who helped us to obtain some of this month's programs. If you have a modem you can contact Simon's BBS on 0428 727060 (19.2K HST DS+ B32bis). This is not a voice number so you can't make funny noises down the phone! This is a modem only number!

Compatibility

Workbench 1.3 users can't use SuperDisk 39 this month because it's a FFS disk for Workbench 2 and 3 owners only. (Upgrade! Upgrade!) But see our earlier notes on the 1.3 programs on the cover CD. All programs run on AGA Amigas and any machine running Workbench 2.x or 3.x unless otherwise stated. We've tried all of the programs on an A1200 and an A3000 and they work perfectly.

If you can't get a program to work then start by reading the documentation on the disk carefully. We've tried to make it as easy as possible for you but if you do become stuck then boot from YOUR Workbench disk (or hard disk) and try to run the program again. If all else fails, good old Andy the Answer Man will be able to help if you write to him at Amiga Answers.

Reader's Contributions

We are always looking for new and original programs to put on our coverdisk. If you would like to see your name and program feature in ***AUI*** then please contact ***AUI*** at the address given in the front of the magazine. Alternatively, give us a call if you think we would be interested in your program (071 487 4284 ext 1071). The shorter the better, under 100k including any libraries – unless it's brilliant! Compiled AMOS programs are welcomed.

Shareware

Just a brief reminder that some of the programs on our Coverdisk are Shareware. This means that you can try them out, but if you regularly use them you should send a registration fee to the author. Registration fees are between £5 and £20 and sometimes the author will send you the latest version in return. You can send an International Money Order, or preferably a cheque but many authors don't accept cheques if they are outside the UK. If you want to risk sending cash in a registered post, it's up to you. We wouldn't advise it but it's your money...

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Amiga CD! Magazine

This is it, the third and most brilliant multimedia Amiga CD coverdisc ever, giving your CD32 the chance to stretch itself. And for all those CDTV and A570 owners who have been left out in the wilderness, an end to all the weeping and wailing and gnashing of teeth; this disc has been specially designed for you too! Another Amiga CD first! Michael Rumbelow leads you through the goodies.

This month's disc is a multimedia banquet of video clips, playable demos of the hottest entertaining and informative CD games, eye-opening editorial in full colour moving video, great PD games, gleaming computer art and scorching music.

CD32

Even though the amount of stuff on this month's disc is bigger than Gondwanaland, finding your way around is as easy as riding a trike down a hill thanks to the simple interface: with colour pictures, sound and pop-up help at every stage.

Demo Games

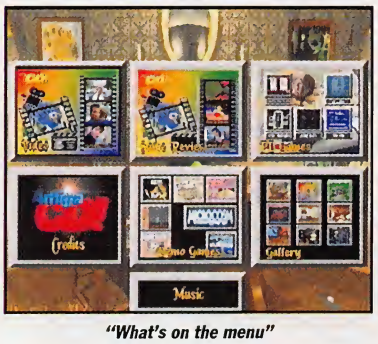
When the coverCD boots, the screen will go black for several seconds, then a screen selection of demo games will come up with instructions on how to start them. These demo games were so huge that they wouldn't fit into the main section of the CD, so they have a special screen to themselves. As it says, wait for the screen to disappear and the buzzer to go and then press the red button to play the red-bordered game - Body Blows, the yellow button for the yellow-bordered game and so on, or the black 'video play' button to for Heimdall. In case you miss them when they appear:

Fire and Ice: Green button
Banshee: Yellow button
Body Blows: Red button
MicroCosm: Blue button
Heimdall: black video play button

If you don't press a button within five seconds the CD automatically moves on to the editorial section and into the main menu.

Main Menu

On the main menu are six buttons, each clearly illustrated with a large picture, no need even to read.



"What's on the menu"

Video

"Fabulous video"

Press here to see any of three video clips featuring the amazing Ashley Cotter-Cairns as well as two less illustrious up and coming celebrities, Clint Eastwood and Jacques Van Damme, in their latest video releases. To play a film trailer select it and press the special 'Play video' button (the black rubber one left of the red button). CD32 owners without an FMV cartridge for playing videoCDs may not have used this button much yet, but with FMV prices slipping and a host of new videoCD releases and other multimedia video applications on their way it should soon become familiar. Warning: to avoid eyestrain and possible damage to your monitor it may be advisable to turn down the brightness and colour controls when viewing Ashley's shirt.

"Unique AmigaCD Editorial"

Games Review

In this section the Amiga CD special games review force try out three of the latest CD32 games releases: Disposable Hero, Fury of the Furries and Labyrinth of Time. Again use the black video play button to view the clips. Includes live footage of very experienced but still fresh Amiga games experts, the 'thirsty threesome' Ashley, David and Sajid said playing the games and full screen footage of liv gameplay. You'll have to reset at th very end of Ashley's game score. (Th computer doesn't like his shirt).

PD Games

"More PD than will fit onto one screen"

The 9 PD games are spread over tw screens: move between the two b pressing on the on-screen arrow but ton. To play a game simply move to th one you want and press the fire butto to start. The only exception is Klondyke which works best with a mouse: onc you have chosen the on-screen Klon dyke button, you then need to click th left mouse button to start. If you don have a mouse you can still play with th joypad, but you have temporarily plu the joypad into the mouse socket on th CD32 and press fire to start, then plu it back into the first socket to play th game. To exit the games reset the ma chine.

Here is the full PD game selection:

Bob's Garden - Similar to the ol

Amiga CD! No.3

arcade game Mr. Do. Dig around collecting apples and shoot anything that tries to stop you. A perennial gardener's favourite.

Depth Charge - Blow up submarines.

Descender - Shoot abstract shapes.

Digger - Dig around shooting anything which tries to stop you. Considered a close contender with Bob's Garden as the best PD game on the disc in gardening circles.

Klondyke - Card game with pictures of sexy ladies on the cards. Not PC, but PD.

Tetris Pro - A supercharged version of the old Russian brain-twister.

Deluxe Galaga - Superb Galaxians clone.

PB Switch - Australian tactical puzzle game.

Xmas time - Christmas theme platform game. Not many shopping months left now.

Credits

In this section you can find out just exactly who was responsible for this trail-blazing innovation in multi media magazine publishing. Private phone numbers for complaints may be supplied on the next CD.

Demo Games

"Labyrinth: quite scary. Play it with the light on."

Yet more demo games: here we have managed to fit a couple into the main section of the CD. Fully playable demo versions of Donk! and Labyrinth, two of the best games out for the CD32. The other five on-screen buttons are reminders of the demo games available at the start of the disc.

Gallery

Here is a conoisseurs' collection of Amiga-generated art. From weird space scenes to weird abstract 3-D blobby shapes and back to weird space scenes again, take a trip around the virtual universe of the Amiga's graphics.

"The finest Amiga art"

Music

Exclusively featured in this month's Amiga CD is the latest track from SuperCirqus. Best loud.

Techy Corner

For those CD32 users with a peculiar penchant for white coats, disshevelled hairstyles and constructing fully functioning home-made time machines in their spare time, we have included a special Techy corner. So that standard video games players don't have to worry their pretty little heads about programming we have put this part in a hidden section accessible only with a special code. Press the green button, then the blue button, then the red button then the yellow button to arrive in techy corner.

The main point of techy corner is to enable computer users to load software off the CD onto hard disk or into RAM of another Amiga to use for their own purposes. To make the most of it you will need as a minimum: another Amiga, an adaptor socket to plug into the CD32's serial port, a null-modem cable and some kind of Comms program like TwinExpress. There should be a more comprehensive techy facility on the next CD, some of the programs like Access on this month's edition are a little wobbly and tend to crash, but for those who wish to have a taste of what's available, here are the instructions for seeing what software delights are included:

- Click on the TwinExpress icon
- Click 'Cancel' on the System request
- Bring the Shell to the front
- Type "cd cd0: cd_project/utilities/twinexpress" then return
- Type "twin" then return
- You can then access the cd directory and see what is on the disc with the 'dir' command. 'help commands' gives a list of commands.

Here is a selection of what software is tucked away on AmigaCD 3:

- fastjpeg : simple graphics file viewer
- jpegs : the original jpeg files used in the disc's gallery section
- PARNET : PD networking software
- Biganim : animation spooler
- Rend : animation builder
- Two wonderful Amiga User International Superdisks for those who missed No.34 and 36.

we haven't managed to squeeze on any CDTV video clips. Technical pobs! Watch this space though - perhaps in the next edition.

CD32: General Help

"What does what on the controller"

The Amiga CD is designed around the intuitive, move and choose interface now common in multimedia. You move the highlight around the on-screen buttons with the directional joypad and choose the one you want by pressing the red 'fire' button. This is all you really need to know to use the Coverdisc, apart from the fact that to play the video clips, you have to use the black 'video play' button. Any other exceptional instructions are all detailed on-screen as and when you need them. The only other common controls are the blue button, which normally cancels whatever is going on - though be aware it sometimes takes a few seconds here in. (You can even get rid of those amazing delightful(?) voice overs!) and the yellow button, which brings up a helpful diagram of what is what on the joypad.

CDTV & A570 Special Instructions

The CDTV version does differ in some aspects to the CD32 one, for instance

Boot-up and Labyrinth

While booting there will be a black screen, followed by a buzzer.

Press '1' at this point to run the huge and frighteningly playable demo of Labyrinth.

COMET

Turn to next page for our amazing Comet Discount Voucher Offer

continued

Main Menu

The main menu displays the five sections available on the CDTV version of the CD; Labyrinth, Art Gallery, PD Games, Music and Credits. Move around with the directional controller buttons (in joystick mode) and choose by pressing the 'A' selector button. All these are the same as on the above CD32 version except for the PD games.

PD Games

The five PD games included are Cliff hanger, Descender, PB Switch, Tetris and Galaga. Galaga will probably not run direct from the CD: follow these instructions if you want to run it and have a floppy drive with a Workbench disk.

- Boot from floppy
- Go to CLI
- Type "assign CDPD: CD0:" then return
- Type "execute CD0:CD_PD_games/deluxe_galaga/galaga.bat" then return- That should do the trick

AmigaCD! No.4

In fact there was so much stuff to fit on this month's disc that it wouldn't even squash into the 600 Megabytes of a CD, so there are some additional goodies not mentioned above we have had to hold over until AmigaCD No.4. There looks like being even more stunning colour video, game demos, deep techy corner and other ground-breaking multi media magazine features. Inter-action packed!

CDTV: General Help

On the CDTV the directional buttons on the controller move the highlight from one on-screen button to another and the 'A' button selects the highlighted one. Use the joy/mouse button to change to mouse control where necessary. On some screens there is a set of buttons at the bottom of the screen, each of which corresponds to the box in the equivalent part of the screen above. For instance the top-left button shows the picture indicated in the top-left box in the Art gallery section. In most sections you can move around the on-screen buttons with all the directional buttons on the controller, though with some movement is linear: just left and right directional buttons. The 'B' deselect button is the equivalent of the blue 'cancel' button on the CD32.

Swap & Win!

Amiga CD! Magazine No.3

The world's fi interactive C magazine for t Amiga

7 Great Game Demos . . 9 Full Games . . Live Video Game Reviews . . Amazing Graphiscs . . Pop Music . . Film Trailers and More!

The Real Amiga Multimedia Experience!

Now with CDTV and A570 Compatibility Too!

COMPACT disc

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Okay, so you are drooling over the hottest bit of technodream stuff you ever held in your eager palms. Yes, you have a CD - a multimedia CD and you can slip it into your Amiga CD 32 and zoom off to Cloud Nine. Don't bother to read on.

Or maybe you don't.

Maybe like most Amiga users you don't have an Amiga CD 32 yet. So what are you going to do with your CD? Well, ***AUI*** has for years been giving you a SuperDisk full of the cream of the Amiga utilities. And there are two this month too. Superdisk 40 can be yours too. Where is it? We hear you cry. You got a CD on the cover of ***AUI***, didn't you? And you got Superdisk 39, the amazing ***AUI*** utilities disk. But SuperDisk 40 which has, as you will see from the instructions on page 15, eleven, yes, eleven more programs packed on to it. Shame!

But fear not, SuperDisk 40 can be yours too if you want it. All you have to do is go down to the nearest Comet store and there are over 200 nationwide and take your Amiga CD! Magazine disc into it. There, Comet's everchanming assistants will give you a free, personal demonstration of what's on the disc and what the Amiga CD 32 can do. And they will give you, in return for your CD, a genuine ***AUI*** SuperDisk No.40.

Now do you want a free, personal demonstration of the latest and some say greatest piece of technology ever produced for the Amiga world? Oh yes, you do.

COMET

In your local Comet, there is is an Amiga CD 32 waiting for you!

Because there are three Amiga CD! Magazine discs which are not quite like the others. The prizes? What do you expect from an CD magazine - Amiga CD 32s.

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So if you don't have an Amiga CD 32, make sure you go along to your local Comet GamesMaster Zone store and see if you have the magic disc that lets you win one. Now we know that there are no Comet stores in Ireland. So, if you live there all you have to do is send us the CD or call 081 302 8383 for your nearest dealer who will, we're sure, be delighted to give you a demonstration of the Amiga CD 32 and a SuperDisk 40. The worst that can happen is you will get a free ***AUI*** SuperDisk No. 40 worth around £15. You couldn't get a better offer than that. You've got nothing to lose, have you?

Button Controls

Red:	Selection/Pause Picture
Blue:	Cancel Selection/ Return to Main Menu
Green:	Help
Cursor:	Highlight Option

TAKE THE VOUCHER TO YOUR LOCAL

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GAMESMASTER ZONE

If at any time your disc hangs, crashes or fails to work in any way, open the lid of the CD32 and check the disc for dust and ensure that it is correctly and firmly positioned. Then restart without using the Reset button

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Valid until July 15 1994

AUI Superdisk No.40

The Best Of *AUI* VOL 1
Compiled by Gideon Overhead

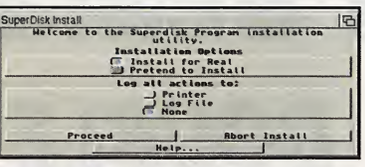
Welcome to SuperDisk 40, yet another disk packed with over a megabyte of software. We have decided to put the very best utilities and games that have previously been on ***AUI*** Coverdisks. They have even been replaced with the latest versions where possible. The famous Lha archiver has been used to crunch all the data onto just one floppy. It's dead easy to un-crunch because we're using Commodore's Installer to do the dirty work for you!

To get going, just follow our instructions:

Boot up your machine with Workbench or the SuperDisk. Double click on the SuperDisk Install icon and wait for the installer program to load.

When it's loaded just click on the "Proceed" button. As the message says, you are about to start the unarchiving procedure, so click on "Proceed" again to get underway.

Now select Hard or Floppy Disk as your destination device and click on "Proceed". Note, if you want to unarchive to the RAM disk click on "Proceed anyway since the RAM disk can be selected later in the procedure and is in fact the default directory).



The installer utility is totally idiot proof. (We hope!)

You should see a scrollable list of the archived programs on the SuperDisk. Click on the up/down arrows or scroll bar to scroll the list. Click once on the file that you wish to unarchive and click on "Proceed" again.

The install program will now ask you where the file should be unarchived to. The default is RAM, but use the "Show Drives" gadget to select a different drive and directory. "Make New Drawer" will let you create a new drawer, if you haven't guessed!

Click on "Proceed" and installer will show you the exact command it is about to execute. If it all looks good (if you're interested that is), click on... that's right, "Proceed".

The disk will then chunk into action as the file is unarchived. When it's finished, you'll have the option to continue unarchiving the other programs (by going through the selection process again) or finishing the unarchiving procedure. If you choose the latter, the final task is to decide whether or not to install any libraries.

If you select "Yes", the installer will show a list of all the library files available on the SuperDisk. Click on a particular library to remove its 'tick' thus indicating that the library file will not be copied. Select a destination for the libraries (probably your Workbench Libs: directory) and click on proceed, the libraries will now be copied.

If you intend to use this month's programs from your hard drive or your own Workbench disk, you need not copy any of the libraries except for reqtools.library and arp.library - if you haven't already got it.

Programs

There are 11 archives on the disk this month. Most, if not all, of the archives have a README (or .doc) file which has been set up to use "more" if you double click on the icon. This will give you much more information about the program and its use, so always read this file if you intend to use the program.

These files look for "more" in the c: directory which is on the SuperDisk. Alternatively you can load the documentations files into most word processors.

Libraries

This particular aspect of AmigasDOS can be a little confusing, especially for beginners. You don't need to know how libraries work, but you should know what to do with them!

We generally provide the libraries that are required by the programs on the SuperDisk, and these can be copied to the libs: directory of your Workbench disk (or other bootable disk) if required.

Remember that the computer will always look for the LIBS directory on the disk that you booted up with, so if there is a problem with a program needing a library ensure that the library is present in the directory. Finally, Workbench 3 has a number of new libraries which can't be used with Workbench 1.3, so don't try using them with the old OS.

If in doubt, read the program documentation, since programmers usually put this information into their readme files.

FastJPEG V1.10

This excellent JPEG viewer is the fastest we have come across. This latest version (1.10) has a requestor for quick and easy file selection. There are two versions of the program. One for AGA Amigas and one for non-AGA Amigas. We have included a wonderfully rendered picture to for you to try it out with.

Imploder

Imploder is my favourite executable file cruncher. It is professionally written and very easy to use. There is even some excellent music which plays as you crunch!

Imploder, a brillant file cruncher.

GiegerTetris

This version is possibly closest to the original Tetris, bar the music. Instead of the original Russian melody there is a nice classical sounding piece.

DiskSalv2

Every Amiga owner needs a disk salvaging program and one of the best is DiskSalv. It was written by Dave Haynie of Commodore so you know it was created by someone who knows what he is talking about! WB 2+ only

BigAnim

This is a neat little CLI program which is used if you have an animation that is too big to load into RAM. It loads some into RAM, and while playing it, loads some more in, keeping the animation reasonably smooth.

MegaWorm

A classic arcade game in which you control a worm which gets longer every time it eats. Try and survive long enough to progress to the next level, and have fun.

Memclear

MemClear is a CLI program which clears your unused memory chunks with zeros After clearing, it prints the amount of cleared bytes in CHIP and FAST Memory, and the total amount of free bytes.

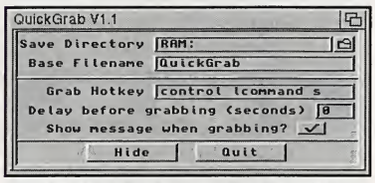
Archives

Here is an at-a-glance list of all the archives on the disk:

BigAnim.lha
Disksalv2.lha
GiegerTetris.lha
Imploder.lha
MegaWorm.lha
MemClear.lha
QuickGrab.lha
SYSinfo.lha
ToolsDaemon21a.lha
WBVerlauf.lha

QuickGrab

This useful program allows you to grab pictures of most workbench based programs just by hitting a combination of keys. WB 2+ only



QuickGrab, an easy to use screen grabber.

SYSinfo V3.23

This program tells you all about your Amiga, from how fast the processor is to what system libraries you have installed.

ToolsDaemon V2.1a

If you have ever wanted to add to your Workbench menus now is your chance. Nico Francois' excellent Tools Daemon works a treat and is simple to use. WB 2+ only

WBVerlauf V2.0

Fool people into thinking your monitor's colour gun is failing! No, seriously, this program creates smooth colour washes over your Workbench screen. WB 3+ only.

WBVerlauf.iff, creates lovely AGA colour washes on your WB.

This is really the cream of PD. An outstanding selection that any self-respecting Amiga user will love to own. Enjoy! The Best of the Best of ***AUI*** Vol.1

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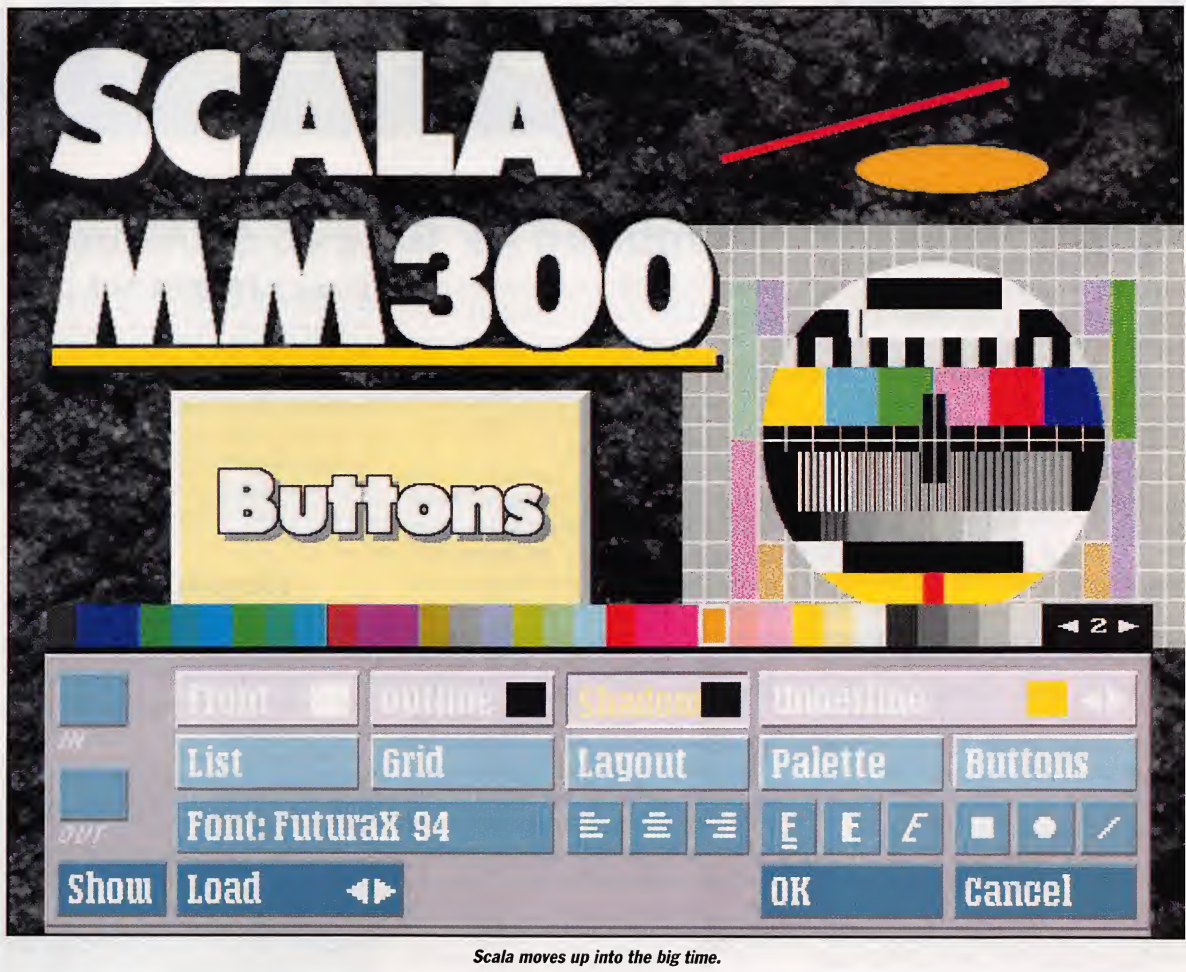
Not Just Any Old Key
No Such Thing As A Quiet Flight
Online First
TV Series Based On The Book
Based On . . . Who?
Doing MPs Justis
Whistle While You Work
PCMCIA Revved Up

Compiled and edited by Anthony Mael and Martin Witton



Scala moves up into the big time.

Moving Up the Scala

Scala, the company that has done more for presenation on the Amiga than anyone else is getting the rewards of its efforts. Not only is Scala used by almost everyone creating a professional presentation on the Amiga and its close relative, InfoChannel used by virtually every cable TV station, but now the Norwegian company founded by Jon Bohmer has signed a deal in the USA that should bring a very big smile to all Scala people's beaming faces.

General Instrument have licenced the Scala technology and with Scala will develop it even more so that it can be used to enable home satellite TV viewers to navigate simply and quickly through the multiplying numbers of broadcast channels and access services using an interactive program guide.

The companies have set a a joint venture called Primestar which is going to deliver what is claimed to be the world's first digitally compressed TV service direct to the home via satellite.

General Instrument will embed Scala's multimedia software in a custom microprocessor that will support mulitple interactive programming guides (IPG - a new acronym!). And they are going to put an IPG into all GI's satellite TVs.

"Using an IPG, viewers can browse through both current and future programming by date, by channel or by category," said Rick Segil, VP of satellite systems at GI. "And additionally they can order their choices in much the same way viewers order movies from pay per view providers."

GI is also going to use Scala's authoring system to allow progamming services to produce and update customised user interface screens with text services, preview clips and two way communication.

"This summer Primestar will expand to over 70 channels and later to over 150 channels." Gary Traver, GI's VP Systems told ***AUI***. And it seems that GI is already using Scala to create visuals to go with its new digital audio channels and to create a wide range of downloadable screen material.

Scala told ***AUI*** that they have sold more than 45,000 copies of the their program which must make it one of the big Amiga successes. But this deal with world leading electronics company General Instruments really takes it up into the big league. Will the Amiga go with it?

DOUBLE SPEED

Sony has brought out a new double-speed CD-ROM drive specifically designed for Multimedia and Photo-CD Multisession support.

They told *AUI* that the CDU33A meets industry standard Multimedia PC Level 2 (MPC2) specifications which allows users to take advantage of multimedia opportunities. The sustained data transfer rate has been doubled to 300 KBytes/sec by rotating the dic at twice the speed of conventional drives.

It's clear that we are going to see more and more of these CD-ROM drives coming out but you have to have a PC to run them. Wouldn't it be simpler just to get an Amiga CD 32? Or are we the only ones in the secret?

THE MICROKERNAL APPROACH

Apple is due to unveil a strategy to open up the Macintosh architecture. A three year roadmap sets out how Apple intends to bring to market a microkernal version of the Macintosh operating system to extend the Macintosh environment beyond the traditional Motorola base. The microkernal approach isolates the core of the operating system from machine-specific ancillary services, increasing both portability and scalability.

By mid 1996, say Apple, the PowerPC user interface is expected to have intelligent agents, built in speech recognition and text-to-speech capability.The first example of "a home grown microkernal" is expected by late 1995 or early 1996. Code named Gershwin and intended for the desktop and PowerOpen servers, this will, it is claimed, include multithreading, multitasking, Open DOC 2.0 and 3-D modelling.

Now what's all this got to do with the price of Commodore fish...or rather Amigas?

Well, what we think it means - though "home grown microkernal" sound a bit like gardening - is that computing even at the desktop level is going modular. you'll be able to fit new modules of the operating system and even of applications into the new machines.

Now if the runours are correct - and we're not talking about of CBM's imminent death but of the next generation of Amigas containing the PowerPC chip from Motorola, there is no reason why this approach should be confined to Macs but could also be applied to Amigas. Now wouldn't you like to have all those juicy promised goodies like voice recognition and simply plug them in and away you go. We certainly would.

Double the speed but will Sony grab the real thing?

Contact: Sony Computer Peripherals & Components UK, The Heights, Brooklands, Weybridge KT13 0XW. Tel: 0932 816000. (Not for the CD 32 though...Unless it's Sony who buy out Commodore...)

Olé

No, it's not the call of the aficionados at the bullfight in Pamplona. It's the latest acronym for a piece of computer jargon. It means Object Linking and Embedding which is the latest buzzword in the programming environment. First Amiga - Spanish for girl firiend and now OLÉ. Is it going to be Viva España! Or Paella next?

Factoid

Bill Gates, Microsoft's billionaire boss, spends 2 hours a day reading and writing EMAIL. If you want to contact him to tell him how overwhelmed you are by MSDOS or that Windows is only now doing what the Amiga did years ago or any other useful comment of a similar nature, his identification tag is Billg.

Will we all get smart on the 'Net?

SMART SIREN

Siren Software have told ***AUI*** that they are now supplying the Best Data 'Smart One' range of modems.

All modems include RS232 cable, UK power supply, Ncomm communication software, full instructions, getting started guide and a two year warranty.

The Smart One 1442FX operates at speeds from 1200 to 14,400 bps and can send and receive faxes at 14,400bps. It's designed, Siren tell us, for beginners and experts alike and is priced at £199.99 (inc. VAT). With the growing interest in Internet etc as described in this issue of ***AUI***, we all might be buying modems soon so Siren might be a good supplier to keep note of.

Contact: Siren Software, Wilto House, Bury Road, Radcliffe, Manchester M26 9UR. Tel: 061 724 7572.

PENTIUM BASED PCs

By the end of this year, 25% of PCs sold will be Pentium-based, according to Intel, who have announced their intention to push their latest chip into mainstream desktop and home markets.

Intel has announced three new chips: 90 and 100MHz Pentiums, dubbed P54C, and the 100MHz iDX4 - a 486 from which Intel has dropped the 486 tag.

Before the end of the year, Pentium-based PCs will hit the 'magic price point' of $2000, said Steve Poole, Intel's European VP, as the company cuts the price of the top end chip to shoehorn it into the mainstream PC market.

The transition from top end processor to mainstream will take 12 months or less for the Pentium which was introduced in the last quarter of 1993, said Poole. The 386 took five years to reach $2000 systems and the 486 took four.Intel has invested $5billion in the development, production and promotion of Pentium. 6 billion? Wow thsat's a lot of money even to see "intelInside" all over the place.

It's spending $150 million of that in advertising telling us all about what's inside too. As each generation of processor costs them more, they say, so that have to get bigger and bigger sales volumes to get back their investment.

The next generation called the P6 is said to be going to cost Intel a mere $12 billion, and the P7 $20billion.

'At each stage we bet the farm on it, but that's always the way it has been', said Poole.

The farm? What sort of business is Intel in? And are the trees on that farm the kind that money grows on?

QUOTE OF THE MONTH

"It's a sound plan as long as people realise those delivery schedules are probably set in Jell-O," said Jenny Ceurvels, market analyst with BIS Strategic Decisions.

What she means is that any software or hardware delivery date can slip through your fingers like jelly. And don't we know it!

It's another illustration of the very true saying that no major software project - and it could also be hardware - has EVER been finished on schedule and on budget.

Net So Good

A man has appeared in court charged with sending President Clinton an Email message threatening to kill him.

James Reincke wrote to the President suggesting that he should not continue with his present plans and asked him how he would feel about being the first President to be killed on the same day as his wife.

Meanwhile in Massachusetts a man was accused of using a computer bulletin board to advertise for 'a friend' to help him kidnap and molest a young boy. Is this a new slant on computer crime? And see the Internet article in this ***AUI*** on page 88 for what happiness is for some beastly 'Netters. (Or 'Nutters!)

Don't Get Sniffy

You may have thought that IBM had enough on its hands in getting out of the hole it had stumbled into through believing that the bonanza it once earned from selling mainframes would go on for ever. But after losing literally billions it still apparently has time for a little light relief.

In one of its many laboratories, some bright Big Blue spark has come up with, and we kid you not, a computer that can small. Or at least distinguish between smells. (And none of that old joke about I smell but that computer stinks.)

What will they use this marvel for? Who knows? Maybe to tell the difference between one flower and another, one sexy perfume and another.. And what would be the effect on it of a guy we once knew who swore that he pulled the girls with no trouble at all because he'd read that if you rub your - used - underpants under your chin, when you get close to a girl she just melts. Would IBM's new electronic stinker just fall apart - or about?

BEAM ME UP A LAWYER, SCOTTIE!

It is being rumoured that Paramount Studios - the movie company recently bought for a mere £6 billion, have demanded the removal of all Star Trek games, graphics and sound files from CompuServe and other US networks.

They've apparently given the networks some time (a few light years?) to clean up the galaxied act but are threatening action in future. (On which planet?)

If you play games, forget it..

SERIOUSLY AMIGA

AmaKEY Design have produced three books "for Amiga owners wanting to use the machine for more than just playing games." Are there such people. Whoever heard of Amiga owners who use it for something else?

The three titles are part of a series called 'Get Serious With Your Amiga' and have been written by Larry "JAM" Hickmott.

The first three books off the presses are Fonts & Clip Art, Word Processors and Buying an Amiga. Each of the titles will cost £9.95, many of them promised with a companion disk.

Contact: AmaKEY Design, 13 Gairloch Ave., Bletchley MK2 3DH. Tel: 0908 370230.

SYQUEST EXTENDS WARRANTY

Five Years Hard labour...

SyQuest Technology has increased the warranty on all 105MB 3.5" removable hard disk cartridges from one year to five years. The warranty will also apply to the 3.5" 270MB cartridges associated with SyQuest's new SQ3270 drive.

SyQuest claim that their drives are popular because they are faster and less expensive than magneto-opticals and ideal for applications that require high performance storage solutions. They say they are reliable, easily transportable and a cost effective solution when more storage is needed. The 270MB drive has over twice the capacity of 128MB magneto-opticals.

Soaring SOFTWARE SALES

CentreGold, the US Gold group which recently went public and made its founder Geof Brown a millionaire, has been coing in the the cash.

Turnover from its software publishing business, US Gold etc, increased by 81% to £26.2m. Cartridge sales more than doubled to £19.2m with the launch of CentreGold's first Nintendo product and the growth of its US business.

New product launches, higher US sales and the growing popularity of personal computer software in CD-Rom helped CentreGold resist the price wars and turn in a 24% increase in its interim pretax profits.

And it all started with would-be rock musician Geof Brown persuading rather sniffy US games companies that the UK did really exist as a games market - and what better name to give the company that made its name importing American products than US Gold?

They do say in Birmingham that everything Mr Brown touches turns to gold...except that Testarozza which was red and kept breaking down..

PC WORLD
THE COMPUTER SUPERSTORE

PC WORLD WOOS WOMEN

PC World, the computer superstore, are under the impression that Northampton women are unique. This extraordinary revelation is based on the dubious analysis of data collected when the company advertised for suitable candidates to work at the latest store. Was this startling revelation based on the calibre of the applicants? No. Their claim that Northampton women lead the way is based on the fact that the recruitment campaign attracted a record number of female applicants.

Good lord, did they really think that women were too dumb for computers? Or is it that PC use affects the brain of males and all they can do is sit around staring out of Windows?

DOES VOICE MAIL REALLY WORK?

Chomerics Europe recently installed the British designed and built Voice Connect system, to consolidate their French, German and British sales operations into one central unit in Marlow.

The Voice Connect system, they say, enables the sales teams, independent sales agents and customers to remain in contact with technical, sales and service staff, by instantly providing a contact in the callers own language from a single source.

Messages can be dealt with quickly by multilingual experts. The Voice Connector is plugged into an existing telephone system and automatically answers 24 hours a day and with a human voice, callers on the system, providing both internal and external messaging services. Callers can immediately route themselves to the person they need simply by dialling their extension number.

Voice Connector can also announce the name of the caller to the extension user and will also record internal or external callers messages if someone is engaged or not available and deliver those messages automatically to any telephone worldwide.

More and more companie we call seem to be using voice mail which is really only a complex version of the answer phone.

Don't think you in your not so humble home won't get around to using one in the not so distant future. When answer phones started to become popluar in the early seventies, you could hardly buy one but had to - expensively - hire one. And companies made a mint from the rent. They were valued at hundreds of pounds - then! Now they are down to a few pounds and we are beginning to see more and more companies using them. The first that we know of was GVP but Commodore in the UK have voice mail and no doubt in the USA in these last days CBM's West Chester head-quarters has found it very useful indeed. Voice Mail - it means never having to say you're sorry - at least not in person.

Contact: Voice Connect Ltd. 12, Fir Tree Lane Industrial Estate, Groby, Leics. LE6 0FH. Tel: 0533 322422.

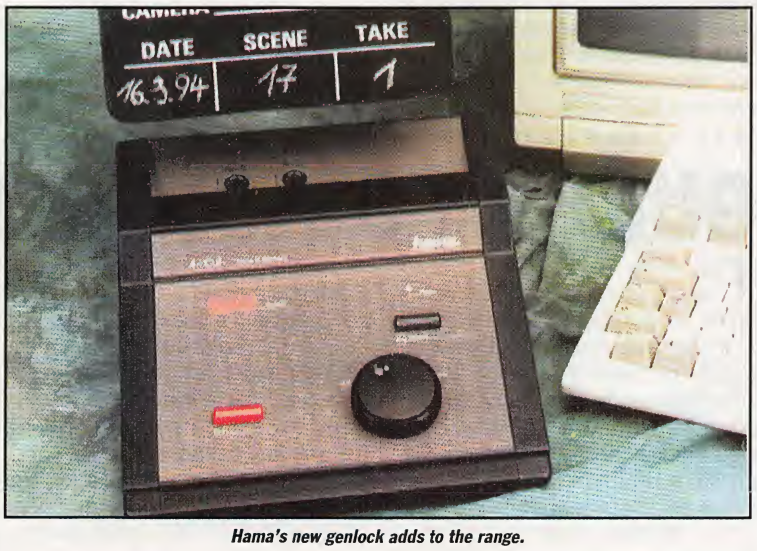
DIGITAL VCR STANDARDS

An agreement has been reached by the world's leading consumer electronics companies on technical standards for the next generation of digital VCRs.

50 members of the the HD Digital VCR Conference reached an agreement for high definition digital VCRs which use the binary digits of computer language rather than analogue signals to record images and sounds. Digital VCRs will, it is claimed, give greatly improved picture quality and make for cleaner tape copies.

The machines will use tapes about two thirds the size of a conventional VHS cassette with four and a half recording time, and are expected to be in the shops by early next year. They are expected to be expensive with some estimates putting the cost of a machine at up to £2,055.

Now that all sounds just whizzo, doesn't it? A nice bit of techonews. But do they really think that the VCR - especially at that price - is going to compete with the cheap and increasingly cheerful CD? Doesn't it seem a bit late - even for the no doubt digitally marvellous - VCR to make its mark? Particularly with all this video-on-demnd that going to be downloadedable.



Hama's new genlock adds to the range.

HAMA A-Cuts It

Hama has launched the new A-Cut for Amigas. It was first shown at the CEBIT exhibition in Hannover in March, and Hama says it's the latest edition to the range of editors for computer controlled editing. A-Cut complements the range of their Amiga genlocks. A prototype controlled vision mixer was also on show.

Hama have a second series of Videosound CDs which, they told ***AUI***, will offer users top quality music and effects tracks for adding to video soundtracks without infringement of copyright. The subjects covered include Holidays, Travel, People, Recreation, Atmosphere and special effects.

Contact: Hama PVAC Ltd, Unit 4, Cherrywood, Chineham Business Park, Basingstoke, Hants RG24 0WF Tel: 0256 708110

VERSATILE MONITOR

The Auto-Scan 1438 is said to be a versatile 14" monitor from Microvitec suited to a wide range of applications from business to consumer. Designed and built in the UK, Microvitec told ***AUI*** "the monitor includes features such as frugal power consumption, anti-glare screen, tilt and swivel and MPR II compliance." MPR compliance? Oh really?

The 1438 can autoscan across a wide range of frequencies to provide users with the flexibility to run applications at both VGA and higher frequencies, while still allowing the use of software that needs lower frequency compatibility, such as games.

Contact: Microvitec PLC., Bolling Road, Bradford BD4 7TU.

Nice looking and frugal with the power...

Breathing heavily at 166MPS

A quote - not of the month - but from an Intel advertisment:

"Power to deliver 166 million instructions per second. The Pentium processor will breathe new life into your current spreadsheet packages and integrated software suites."

Now 166 mps is quite a little bit on the nippy side but even at that speed we doubt whether it can "breathe new life" into a speadsheet program.

QUOTE OF THE MONTH

"As for the threat of multimedia PCs dominating the market... Technically it is possible that the family will gather round the PC to watch a movie or play a game. But it won't happen. It's a different business".

Simon Turner - Philips Director of Interactive Media

And he's right too. Philips CD-I may not be the bees knees but it - and of course the Amiga CD 32 - are miles ahead of the PCs in what we might call "living room appeal". The venerable Editor of AUI - and please make sure that's spelt "venerable' and not "venereal" or that's the end of us! - said much the same thing an issue or two ago. Though doubtless millions of PCs will penetrate the SoHo - small office/home office - market, there is no way that any sensible home entertainment loving person is going to have one cluttering up the living room and you can believe that no matter what Bill Gates or any other supposed guru of the computing world tells you. There is maybe not in technical terms but certainly in appearance a difference between a computer and a living room entertainment machine; a point that rightly but unsuccessfully Commodore tried to get over with the CDTV.

HELLO DARLING AND GOODBYE

Now there was a time when two darling young brothers, still in their late teens, prodigies at their art of coding started their own company with the expressed intention of not paying out all that silly money that was demanded for licences to movie titles and the like for computer games. And they did it it too. They created loads of games which if cheap - 8 bit at £2.99 - and not too terribly complicated were at least original.

So many games did they sell that both brothers became rich and when they fought off one of the big bullying console companies over whether a device they'd invented called Game Genie could be legally used, they even became famous.

So they drove around the Oxfordshire countryside in their Porsches still the good side of 25 years of age making the games world Dizzy with their cleverness.

But all good things have to come to an end and probably the only games company that by choice had never bought a licence seems to have caved in to the nasty commercial world. For who should the new Wimbledon winner and world number one, Pete Sampras' Tennis be by? Well, what a surprise, Codemasters. So the Darling brothers have gone down the trail of licences, no doubt crying all the way to the bank.

Ah, it's a sad computing - or do we mean corrupting? - world out there - even seen through the windsceen of a Porsche, don't you agree, darling?

COMMODORE PRESS PACK ERROR

A press release distributed in the Commodore Press packs at ECTS, we are told, inadvertently described the MC68040 processor as the Motorola 68LC040. But equally we have been informed that "The Amiga 4000 Tower derives its power from the MC68040 processor which is substantially more powerful than the processor cited in the original release." Now that would be nice to know if anyone could get hold of these almost mythical A4000Ts. We know lots of people including none other than Barry McCarthy himself who would be delighted to shell out real momey to buy one but according to our US sources no more than 300 A4000Ts have ever been produced and most of those seem to have been sold, believe it or not, in Canada from whence some the Towers were bootlegged across the border the USA. It's like Prohibition days, isn't it? Psst! Want to buy an expensive Amiga? Yes, please. And we have one!

DATEL'S DIGITISER

Datel have a colour digitiser that they claim is a "full realtime digitiser at a realistic price." The digitiser is 500 and 500plus compatible and it can grab colour images in 1/50th of a second. Its double buffered display is said to refresh the screen at 5 frames per second. You can, Datel say, save IFF files from 15 bit data - 15? That's an unusual number! It has among its editing features cut, paste, brush, copy and lots more. Palette controls inlcude TGB and gamma. The cost? Just £99.99. Yes, you get that vital penny change.

Contact: Datel Electronics, Govan Road, Fenton Industrial Estate, Fenton, Stoke-on-Trent ST4 2RS Tel: 0782 744292

ROBOTICS SPORTSTER

US Robotics have said they intend to bring modems to the mass market by reducing the Sportster 14.400 under the £200 price barrier. The fax/modem has been given a list price of £199.00, but may be seen in some retail outlets for as little as £150.00 to compete, say US Robotics, with "grey imported non BABT approved kit". The 14,400 is the company's best selling product. They also have a Sportster 2,400 priced £99.00.

The Sportster 14,400 has been packaged to sell straight from the shelves. "People have to be in the market for a sale, but the customer should be able to decide whether they want it from reading the box", said MD Clive Hudson. The Sportster 14,400 comes with fax and data software from Smith Micro.

Decide on a modem from the box? Oh really?

GUIDES FOR IDIOTS?

The news team assume that the letter addressed to OBE (Our beloved Editor) which starts "Dear Anthony (sic) Jacobson, The Idiot's Guide To ..." wasn't meant personally! Juliet Thompson from MacMillan London goes on to suggest that the books would make "ideal giveaways or competition prizes". What for ***AUI*** readers? We're not idiots, we hear you cry.

So how would you feel about being presented with an Idiots Guide? However, whereas one might take exception to being thought an idiot, one could picture someone in a mac slipping into a backstreet bokseller to obtain a copy, suitably wrapped in brown paper (or the Observer!) and reading, late at night, under the covers, while one's partner is sleeping, these very useful tomes.

The Idiot's Guides to: Wordperfect, Windows, DOS and Lotus may be just what you have been looking for to unravel the mysteries - all for £2.99 each.

Not only do they offer VFM but come with a unique holder which attaches the guide to the side of the computer. The author Seth Godin was brand manager at Spinnaker Software for several years. He also published videos on how to use computer programs and taught introduction to computer science at Tufts University, USA. They may have been idiots there, Seth, but you are targetting the wrong audience here at ***AUI***. Readers of ***AUI*** are not, we repeat - possibly like PC users - idiots!

The World's Largest? Not Just yet..

Compaq's expressed goal of becomming the world's largest PC manufacturer by 1996 may have come a step closer, they claimed, when they announced a doubling of their profits for the first quarter of the year. The profits they made from lowering the price of their PCs but keeping up the quality increased by 108% to $213 million - about £120 million on sales up 41% to $2.3 billion. That's a nice little £1.4 billion or thereabouts. It's still quite probably quite a bit behind IBM but Compaq is the only one of the top six PC manufacturers who made money last year so you never know what could happen by 1996...

MICROSOFT UP TOO

Microsoft who are into software rather than hardware are no slouches when it comes to raking in the cash too. They have reported record turnover, up to 30% to $1.24 billion - a mere £800million or so, for the third quarter, even after a £80 million law suit charge over the Stac Electronics patent infringement case.

They got sued for using Stac technology and had to pay up a little matter of £80 million or so. Excluding that amoumt, income would have been up 38%. Sales of their Windows and Office products have been particularly strong, said Mike Brown, Microsoft VP of finance. For the nine month period turnover was up by 24 per cent to $3.36 billion, - around £2 billion and profits up 14% to $784 million. Now making £500 million profit in just nine months is big money in anybody's language even Microsoft's bespectacled boss, Bill(call me on Email) Gates.

FACTOID

The electronics games market is the fastest growing and now the biggest sector of the European toys and games market, up 89% between 1988 and 1992. Yes, toys and games...

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MAGIC CAP FITS MINITEL

France Telecom has taken shares in the General Magic alliance giving it access to the Magic Cap operating system and the Telescript communications language. The company plans to put the technology in its Minitel interactive data network. "Telescript" we are told "is an object-oriented communications language that allows the user to create software agents that go out into the network gathering information and services requested." Oh really? Who are these agents that go wandering about the system and worse still we don't know to whom they report. Are KGB or MI5 or eveb CIA?

Magic Cap is claimed to be "a combined operating system and user interface." Oh really?

"The deal will enable France Telecom to offer a more sophisticated service improving the user interface for users to create intelligent agents that can interrogate the network."

What and how the agents are starting interrogation! We don't much like the sound of this. It's beginning to feel menacing.

But fear not help may be at hand from Maigret or Hercule Poirot or even the Sureté, anyone who speaks French in fact. For what Magic Cap's agents may not know is that Minitel, the French equivalent of Videotext (or Prestel), with whom they have joined forces is the very largely used for sexual purposes.

Yes, all the fears of the hysterical MPs etc in the UK about what the networks can be used for is borne out on Minitel where ooh la la! the goings on are reputed to be trés trés wild. Perhaps Magic Cap could change its name to Dutch cap?

IBM & CYRIX *versus* INTEL

IBM is taking on the might of Intel - see the enormous profits in the earlier item - following a new five-year licencing agreement with x86 chip designer Cyrix. This follows IBM's giving up rights to produce Intel's Pentium processors. Pentiums (Should it be Pentia?) use BiCMOS manufacturing technology but IBM is committed to the simpler CMOS process for its advanced processor design. The new arrangement with Cyrix, one of Intel's bitter rivals, also entitles IBM to produce as many processors for its own use as it makes for Cyrix and use them for itself or even to sell them on the market.

Intel won't be too pleased at this ganging up against them but no doubt with the amount of cash they're making at the moment they won't be too worried - yet.

COMPUTER GRAPHICS EXPO

The organisers of Computer Graphics Expo which takes place at Wembley on 8-10 November have announced the establishment of a Computer Games Development Centre there. This, they say, will be both an educational forum and a place where developers can meet games publishers.

The Expo, they say, embraces the creative and potential for computer graphics technology in fast growing areas such as multimedia and virtual reality.

Complementing the exhibits and application areas is a series of associated events such as The London Film Effects and Animation Festival (The LEAF awards), The Computer Art and Design Show and a multi-stream Computer Graphics conference series.

Contact: Gerry Murray, Computer Graphics Expo. 10 Barley Mow Passage, Chiswick, London W4 4PH. Tel: 081 995 3632.

DIRTY Work

Research by DE Montfort University - is that all they have to do at private universies? - has revealed that dirty and greasy computer screens can distort displayed text and graphics and lead to eyestrain. Oh really?

The research commissioned by Sapona, was carried out in three office environments - an accountants, a local authority - well we know what dirty deeds go on there don't we? - and a garage.

A recent EC directive on VDU use has warned that screen gazing for long periods can lead to mistakes, eyestrain, headaches and general fatigue. A screen clouded with static, fingerprints, grease and dust will make this worse.

A further problem uncovered by the researchers is that VDU users tend to increase the monitor's brightness levels to compensate for a dirty screen. Well, of course, they would wouldn't they? This can also cause eyestrain.

Following the research, the university produced a five point checklist for users to prevent eyestrain. Sapona have produced a range of specialised cleaning kits! Well, they would too, wouldn't they?

Watch Out for the Swerve

Swerve Video are bringing out a 4 disk pack of AGA multimedia backgrounds and pre-defined palettes for use in your own productions. They're free of copyright. they cost just £4.75.

Contact: Swerve Video, 99 Park lane, Wednesbury, West Midlands WS10 9P

STAR CUTs

Star Micronics has announced "aggressive new prices" across its range of dot-matrix, laser and colour thermal printers. These include £149.00 (from £199.00) for the LC-100 at the bottom end to £379.00 for the SJ-144 thermal printer from £459.00. So if you would like an aggressively priced new printer...

Contact: Star Micronics UK Ltd., Star House, Peregrine Business Park, Gomm Road, High Wycombe Bucks HP13 7DL.

NECROPHILIA IS NOT RECOMMENDED

A sex education computer disk which provides young people with information on more than 150 topics from blow jobs, babies and bestiality to safer sex, sodomy and sado-masochism - no, dear not all at the same time, it will tire you out - could soon be available in secondary schools (unless Education Minister John Patten gets there first!)

An A-Z of Love and Sex has been devised by a former probation officer who claims it offers a balanced approach on sensitive issues.(Such as the advice that necrophilia is not recommended?).

Graphics are included to illustrate various sexual matters (with sound effects?) such as 'vasectomy' which, it is rumoured, comes(wrong word that!) complete with a dotted line and label saying 'cut here'. (Ms Bobbitt is not included in the list of contributors!)

The disk, to be tried out in a selection of schools, follows the row over the Health Education publication - Your Pocket Guide to Sex which was banned by Dr. Mawhinney, the Health Minister. Pocket Guide? That's where boys keep their hands to play games after they give up consoles, isn't it?

HOLY AMIGA

What all you believers have been waiting for..Christian Clip Art has arrived for the Amiga. The collection comprises 45 themed disks of clip art selected by a minister for use in Bible studies, Sunday schools and Church magazines. Which is where unquestionably most of you spend your time with your Amigas. While many of the pictures are said to be specifically designed to illustrate Bible events and Church life, the compilation also includes drawings of a more general nature.

Themes range from Old Testament archaeology to environmental issues, church history to editorial flair, illuminated letters to harvest festival. The collection also includes 450 Annie Valletton drawings as used in the Good News Bible.

Well, you sinners here's your chance to turn over a new disk.

Contact: Christian Clip Art for the Amiga, 55 Bouldrewood Road, South Benfleet, Essex SS7 5UA. Tel: 0268 795555.

CeBIT RECORD

CeBIT '94 in Hannover attracted a crowd of 675,000 visitors and 5,850 exhibitors, breaking all records and confirming, the organisers view - and who is to say they are wrong? - that the show is the leading international IT exhibition.

Almost half of the exhibitors were from overseas representing 53 countries. The UK was the third largest group of foreign exhibitors with 232 companies taking part.

PRISMA GETS A WORD IN FIRST

Prisma Office has beaten WordPerfect to the market with its Interactive Voice Response System. This lets users access Prisma's network calendar application via telephone without a computer.

Using the telephone keypad, they can review OnTime appointments, have their Mail messages read to them and get calendar information sent to them by fax. WordPerfect has announced a similar service - Telephone Access Server for its Office software, but it isn't expected to ship until mid-year, while Prisma's product is due now. It is based around a card made by Voxlink and the card and all necessary software will start at £9,250. And it's due now? But when has any software come out on time even a package costing the small sum of six grand? But at least for that price youcan shout at your computer and get a respectful answer. We don't get that from our Amigas anymore.

ONE FOR THE GREENIES

The Compass Classic-R Plus P, a new PC - with a silly name - uses CMOS VLSI chips to reduce standby consumption of less than 30 watts for all models - claimed to be less than a third of that for a standard PC. An automatic standby timer also works to save up to 80 per cent of normal running costs according to Compass. The "green" computer is not a new idea but we could see a growing trend. You could always switch the damn thing off to save power instead of leaving it on all day and night as most people we know seem to do.

MONITORS SPACED OUT

Farnell Tandberg Data has launched a pair of monitors with space inside them for a PC - or even and Amiga if you have one on a board. The ErgoStation 15cPT is available in a variety of configurations.

A PowerPC-based option may be made avilable in 15" and 17" models, conform to a variety of green standards. They do not require fans and are low radiation.

A 486DX version with 4Mb of RAM and a 170Mb hard disk costs £1,499.00. It's probably a good idea. After all apart from the keyboard you don't need the bulk of the computer at all. So why not hide it away inside the monitor? Amiga monitor manufacturers please copy.

Slipping through the net?

Here she is again, the girl of your nightmares.

While Americans can contact their president at the White House through Internet, the Government here have not offered such services to the public.

As reported last month, the BBC has launched a prime time TV programme - The Net - and the BBC Networking Club is supposed to encourage the public to join in.

Britain's visible presence on the Internet has been limited largely to the universities exchanging academic information with each other. Few British companies are using it for anything but internal communications. So who is the audience that the BBC is hoping to get/ Well, we hear it's you.

Yes, the home computer user is thought to be getting into the Network mode and the BBC programm will deal with other matters than just networks. We just thought you'd like to know in case you take any time out from serious computing at your Amiga to stare at the Goggle Box.

Not just any old key

The Wall Street Journal reports that Compaq is considering changing the instruction 'Press any key' to 'Press return key' after dim customers kept asking help line operators where the 'any' key is!

Online First

If you wnat to know about such things as Workbench, ARexx and AmigaDos what should you do? Read *AUI* regularly of course. But you can also get more info about these and other useful, nay vital subjects from the Amiga Online Reference Manual obtainable from First Computer centre.

The manual is a collection of AmigaGuide - and if you don't know what that is see the article about it in this *AUI* - documents. Price £17.99

Contact First Computer
Tel: 0532 319444.

NO SUCH THING AS A QUIET FLIGHT

United Airlines has introduced business and "infotainment" centres at every seat. These will include digital phones and personal video systems. Delta, American and other airlines are expected to follow suit. No longer can you take a flight to give you some peace from the phone!

TV series based on the book based on . . . Who?

A new TV mini series is being planned inthe USA that should have you all gripping you armchairs. Based on the book "Accidental Empires" it traces the short and inglorious history of personal computing from the point when young Bill Gates drops out of college to become a computing billionaire.

The riveting book includes details of his endearing habit of holding up long queues in 7-Elevens while he searches his pockets for the 50 cents off coupon on a tub of ice-cream. Can hardly wait!

Doing MPs JUSTIS

Justis Parliament a new CD-ROM /online service available from Context, will provide information on Parliamentary proceedings and publications from 1979 up to the present day.

Included are indexed references to questions, official publications, EC legislation and bill history records. The first archive CD-ROM covers 1979 to 1987, the second from 1987 to 1992. Each costs £250 plus VAT. The annual subscription fee to Justis Parliament is £480.00 plus VAT.

Well, we were going to suggest that Amiga CD! readers once they had finished Microcosm and all the other demos and gone bonkers with Fury of the Furries should start buying CDs like this one. But at nearly £500 we'd recommend buying another two Amiga CD 32s instead.

WHISTLE WHILE YOU WORK

For the past six months staff at Olivetti's Cambridge research centre have been followed around by their computers. When they are away from their desks, they whistle by pressing a button on an infra-red badge, and whichever application they used last reappears on the nearest teleporting machine fitted with an infra-red receiver.

Now you are not believing this are you? But we assure you that April 1st has passed and this is no hoax.

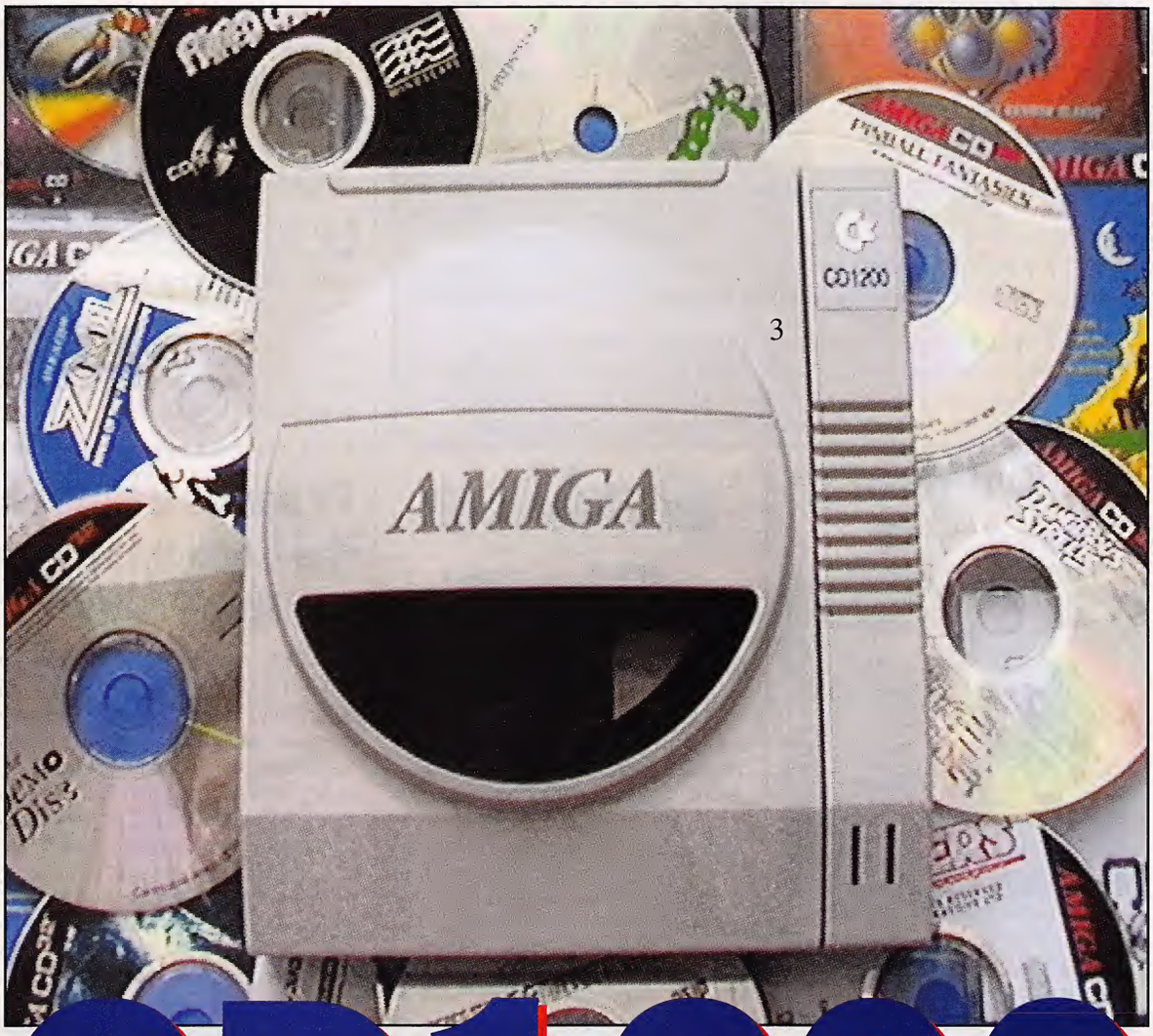
The infra-red badges are already being sold for security applications locking doors or blanking screens when badge wearing personnel are not around.

If you think we're joking about this, we're not sure but we don't think we are. That's funny he just left the room and his Amiga screen went blank...

PCMCIA REVVED UP

The PCMCIA card specification has been beefed up with a 32-bit bus which will transfer data faster than the ISA bus.

Other changes which will make the cards more attractive for desktop use include support for a reduced operating voltage.



CD1200

A1200 owners are in for a big treat this summer! *AUI* has got hold of the official CD drive add-on for the A1200, and Gary Fenton used this as an excuse to play CD32 games all day!

It's white, well built and extremely good looking. Am I taking about me? No, not this time, but the new CD1200 from Commodore is everything to shout about. I remember getting excited about the A570 CD drive for the A500 and look what happened to that. (*Oh really?* ED)

According to sales figures and Gallup charts, CD32 is a success compared to the old CDTV system. Anyway, CD technology is BIG, and the many thousands of 1200 owners should soon have the chance to join in the fun.

It's been a difficult decision over the last year to choose between buying a CD32 and an A1200. After all, it's technically possible to upgrade either machine to perform like the other. The trouble was knowing which machine would be able to be converted into the other first. As it happens the A1200 is first (officially) and the CD1200 turns the 1200 into a fully fledged CD32 - well, very almost.

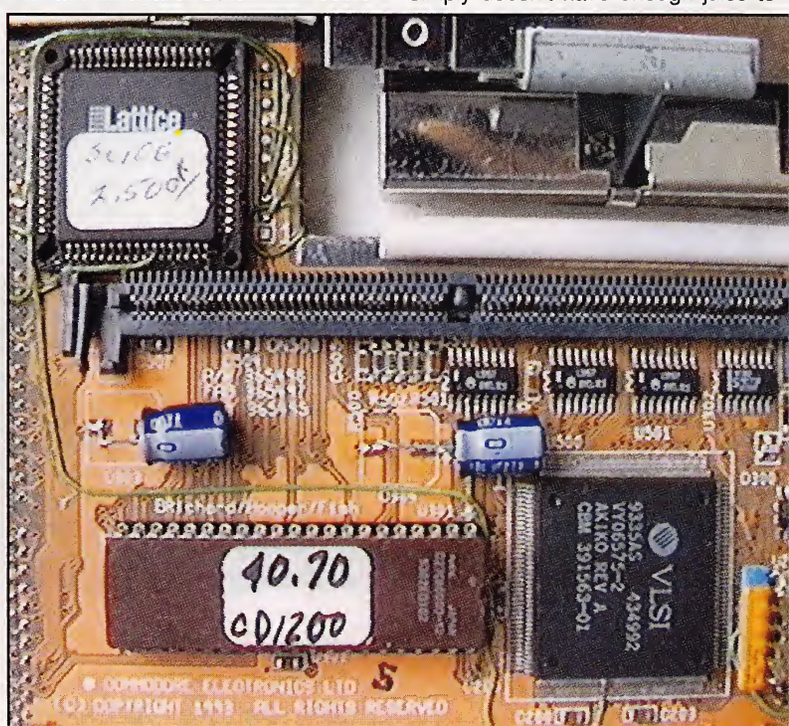
Interface Board

You can place the CD1200 anywhere you like, it doesn't have to be placed next to the 1200, as long as the 2 foot cable will reach(!). This cable connects the 1200 and the CD drive but before you can do that a new interface board must be installed inside the 1200.

The interface board looks like any other expansion board for the 1200 and even includes a SIMM socket for adding extra RAM. One of the chips on the interface is AKIKO which is the very same one you'll find inside a CD32.

AKIKO is the latest version of the Gary/Gail custom chip which additionally provides hardware chunky to planar conversion. And so what? Well, this chip allows the CD32, and now any 1200 with the CD1200 drive, to produce texture mapped graphics like those seen on many PC games. It's no way as fast as a 486 PC doing chunky graphics, but it'll do it faster than an 040 processor!

When it comes to expanding further and adding an FMV video module then, I'm afraid, the similarities with the CD32 stop there. It doesn't appear possible to add such an FMV module onto the CD1200 or the internal interface board. This means that CD movies like Star Trek VI and The Naked Gun won't be seen running on any CD1200's this year. Maybe a 3rd party developer has plans to produce a new interface which allows the FMV module to be used - if it's really technically possible that is.



The interface which fits underneath the trap door inside a 1200. Note the SIMM slot for extra RAM.

Wiring Up

The back of the CD1200 has 6 sockets which seems a lot for a glorified CD player. The audio output from the 1200 must be diverted to the CD1200 where it's mixed with CD music and sound and then output using a pair of stereo phono sockets at the back. This is where you plug your TV or hi-fi into for sound. I very much recommend that anyone with a CD32 or CD1200 output link the sound to a hi-fi because the quality is fantastic, especially when these days a lot of games give you stereo sound effects and CD music at the same time!

As I said earlier, the CD drive is connected to the 1200 via a short cable, called the data cable. Don't ask why, that's quite obvious! The last cable to protrude from the CD1200 is for the power supply. Oh no, not another stupid brick to lay slumbering by your feet. Yes, I'm afraid so, folks. The 1200 simply doesn't have enough juice to

Yes, that's definitely an Akiko chip I see there!

Let's see what's inside the CD1200. Oh, it's a, erm, thing! I think I'll play Zool now. Where does this bit go?

power the CD drive - and I'm not surprised with a pathetic 25 Watt PSU!

If the thought of keeping everyone awake in your house at night with the sounds of Microcosm and Oscar is too much for you, then you can plug your headphones into the minijack socket provided. A volume control allows you to vary the volume according to your ear drum's tolerance.

Playing Games

So, does the CD1200 play all of the games that are out there for the CD32? No. Just kidding - it sure does play 'em all, all those we tried worked fine. The only problem is that some games require the multi-buttoned CD32 controller for special game functions. You can get by with just a regular joystick and I tried it and totally enjoyed playing Fire And Ice from Graftgold (highly recommended!) However, there are now joypads like the Gravis on the market that can be bought quite cheaply.

Microcosm also worked a treat and I played that for oooh, ten minutes! Its graphics are totally stunning and show what can really be done with 650 megabytes of CD storage space. Animation spooled off the CD drive as smoothly as eating a Galaxy chocolate bar, both being sexy if your girlfriend does it! Ahem!

CD-ROM

Because the 1200 has a keyboard and possibly a hard drive, you can use the CD1200 as a CD-ROM giving you access to thousands of programs and tonnes of data, like the Fred Fish collection and all those PD compilations out there. It'll also read PhotoCD pictures providing you have the right software. I have an EX module for Scala and a PD program which reads and displays PhotoCD pictures, and they are stunning to say the least!

I Hear Music

Chuck your favourite music CD into the CD1200 and party all night! Using the CD player program built into the CD1200's ROM you have total control of the music tracks. Better than any normal CD player, you can skip tracks, fast forward, pause, do an intro scan, repeat, random play, program a play list, see how much of the track has been played and how much more to go in minutes and seconds, and the graphics are cool too!

We were given a Workbench program which does the same thing and lets you play CDs while you multitask and get on with other things that you do on your 1200. I'm not absolutely sure if this Workbench program comes with the CD1200 but I'll be surprised if it doesn't.

Conclusion

This is the add-on that 1200 owners have been waiting what seems ages for and thankfully we know for sure that this item really exists! The audio quality is as good as any regular CD player, and arguably better than some of the chea-per ones on the market. The CD games out at the moment are fantastic and outshine the games on other platforms like CD-i and MegaCD. The CD1200 looks good too which I think is important and you'll impress all your friends when you put the drive through its paces.

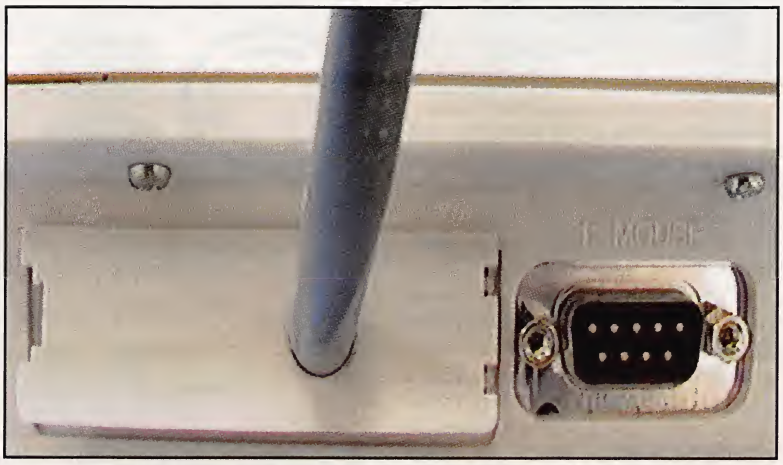
Commodore can't give a definite price or even a launch date for the CD1200 at the time of writing. We can guess that it'll be well under £200, perhaps as low as £149, because the full blown CD32 is only £250. And if the price is much higher then, of course, it would be more economic to buy the CD 32 itself! The CD 1200 could, we are told, even be on sale before the summer is out.. Keep an eye out for this little baby, it's a real gem and certainly one of Commodore's best ever add-ons! Which is a bit ironic with their situation as it is. But by the time that it's available we hope that the crisis will have gone away and all the 1200 owners will be rushing out to buy this great CD drive. ***AUI***

RATINGS

CD A1200

FEATURES	90%
PERFORMANCE	95%
VALUE FOR MONEY	???
LOOKS	95%

Overall Rating 94%



The data cable to the CD drive projects from the back of the A1200. Where else?

Stuff the cables into the back and you'll be ready for business in no time!

A4000T

Isn't she a beauty?

The Amiga world has been waiting a year for this machine to arrive, packed with similar hardware found in the desktop 4000s, plus extra bits, and some surprising modifications. Gary Fenton gets out his screwdriver ready to reveal the secrets of this new Amiga.

Standing half a metre tall with its high profile looks and the god-like Amiga badge, the A4000T is a mighty sight to behold. The mysteries lying beneath its steel exterior have long been anticipated and finally, with its arrival on UK shores, *AUI* have seized this opportunity to bring you the review many have been waiting for.

Sparing no time I whipped the casing off to find out what exactly is inside this beast. Unlike any other Amiga I found the 4000T to be modular in design. There was an Audio Video module, a Disk module, an Input Output module, and a CPU module. At this stage I was so curious that I took these modules out for a closer inspection.

Modular

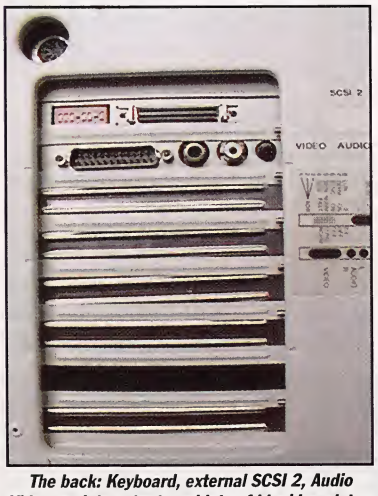
The CPU module is called the A3640 which, I believe, is the very same one used in the current 4000/040. The CPU module can be removed and replaced with other modules when available, such as GVP's 40mhz 040 or UUL's promised 060 board. The standard CPU inside the 4000T is a 25Mhz 68040. One would have expected at least a 33Mhz one for the money. (I'm told that a 33Mhz 040 is not much more than £10 extra!) Sprouting off the motherboard and showing through the back of the machine is the Audio Video module. This provides a regular 15Khz RGB video output socket, a pair of phono sockets for audio, plus an additional headphone socket in the shape of a minijack. Being modular, we are led to believe that this board can be replaced with other boards providing different outputs depending on the users needs.

The front door swings open to reveal the power, reset and audio buttons, and the front drive bays.

The internal speaker near the base, just under the front fan.

The Disk module gives the 4000T a dedicated SCSI 2 interface and connections to floppy disk drives. An external SCSI 2 connector pokes out the back of the machine while a long ribbon cable wraps itself around the inside ready to be connected to various internal SCSI devices.

We just happened to have a fast SCSI 2 drive lying around which I wired in to the tower. Using DiskSpeed 4.1, the machine only obtained a maximum of 1.7 megabytes a second transfer. Something was wrong with my setup and it's probably down to the dip switches found on the underneath my hard drive. Sadly we didn't have enough time to spend getting it to work at full speed, but Commodore told us that they've obtained 3.5Mb a second using a Micropolis hard drive and 4.5Mb a second using a Maxtor drive. It makes a big difference when compared to normal SCSI drives which give about 1Mb a second.



The back: Keyboard, external SCSI 2, Audio Video module output, and lots of blanking plates.

One unusual thing we noted was that the very end of the SCSI cable was attached to the Input Output module, presumably allowing even more SCSI devices (scanners?) to be plugged into the 4000T using an external port.

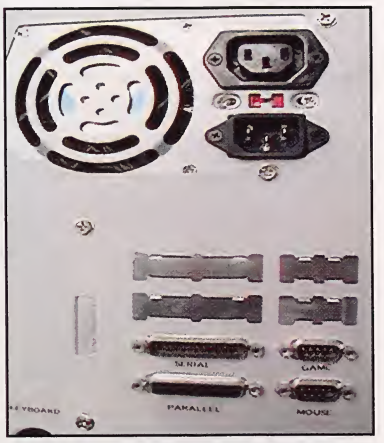
The Input Output module is firmly fixed to the rear of the 4000T (more like welded!) which connects to the motherboard via two ribbon cables and to the Disk module with another cable. It provides the usual serial, parallel, mouse and joystick ports which is common with all Amigas.

Judging by the blanking plates covering holes at the back of the machine, and bearing in mind that this is a modular beast, I imagine that other boards will become available allowing more than one parallel and serial port. Considering most PCs have had two serial ports for many years, I'm a little vexed that the 4000T hasn't two as standard. Oh well, I look forward to a new I/O module then!

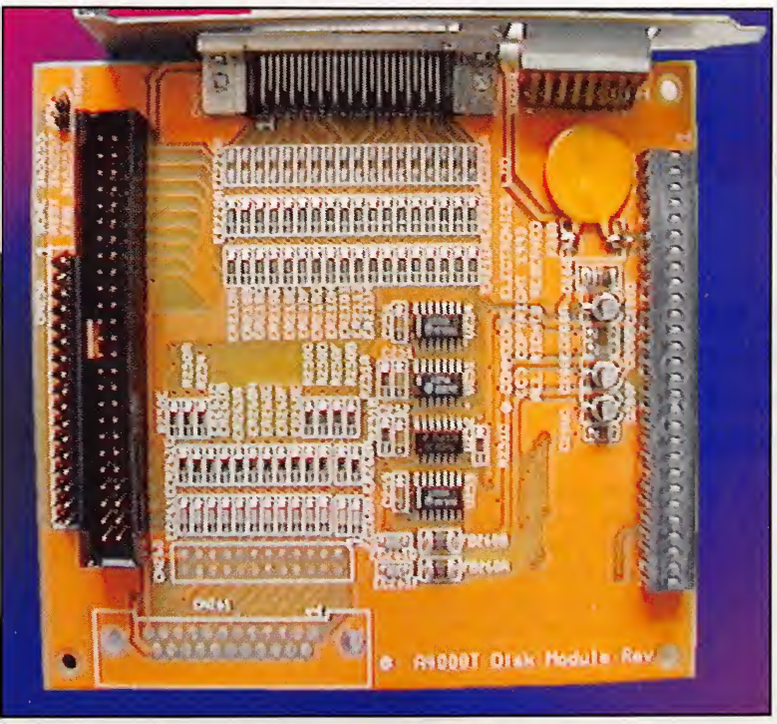
Spacious

There's so much room inside the 4000T that you could almost hang chandeliers inside which automatically go on when you remove the casing. Hmm, perhaps not, but you can certainly fit five internal 5 1/4 inch drives. Three fit horizontally right at the top at the front while another two fit vertically in the middle. There is heaps more room (enough for a football team?) right inside the centre of the machine but no mountings are provided.

Even more room appears vacant above the internal power supply for a miniature nuclear reactor, but it shouldn't be necessary. The PSU provides a meaty 250 watts of steam which is 100 watts more than the PSU of desktop 4000s. It has its own fan which blows air out while another fan mounted at the front sucks air in



The back: Power supply and Input Output module connecters.



The Disk module: Floppy drive and SCSI connections.

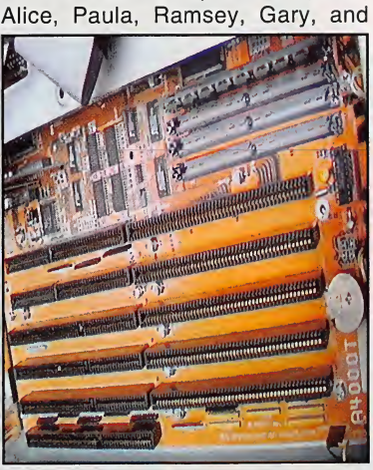
providing an essential and refreshing stream of cool air running through the tower. Deck-chairs and a brass band are extra if want to climb inside on hot days.

RAM It Up!

Four SIMM slots can be found below the Zorro slots near the top of the machine. SIMMs are industry standard memory modules which can easily be installed and removed when needed. Desktop 4000s can only hold 4Mb SIMMs (up to 16Mb of fast RAM), while according to a jumper on the 4000T's motherboard, the tower can utilise 8Mb SIMMs. If this is true then it can be expanded to 32Mb using the provided slots. (The jumper actually says "SIMM Size" followed by a 1 and 2Mb setting and a 4 and 8Mb setting).

Fresh Chip

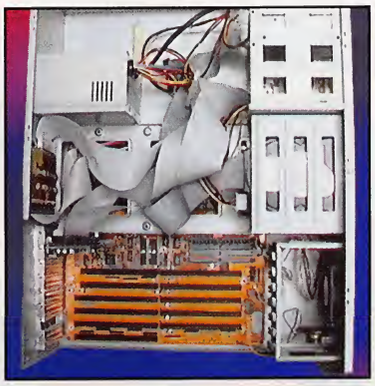
The custom chips which populate the tower are called Super Buster, Lisa, Alice, Paula, Ramsey, Gary, and Bridgette. I don't know why Gary has been used because that chip died with the original chip set. It must be a typing error on the motherboard! Bridgette is a new chip exclusive to the 4000T and does something very clever, I'm sure, but I don't know what! Commodore couldn't provide me with that information before this issue went to press. Maybe it's a Video Toaster chip? Not.



The video, Zorro and PC slots. Top right; SIMM slots.

Double Vision

One, two video slots? No, let me count that again. One, two. Yes, this baby has actually got two video slots! You know the 4000T means business now, what with virtually all 4000s sold in America being used in the video industry, these two slots will come as a major benefit to those who live, work, and breathe video.



Inside the tower with the casing removed.

Other slots include five Zorro III slots and four PC slots including a dedicated PC slot. There are eight guides and rear blanking plates for internal boards. Two of these are taken up by the Audio Video and Disk modules leaving space for six full size boards.

What Else?

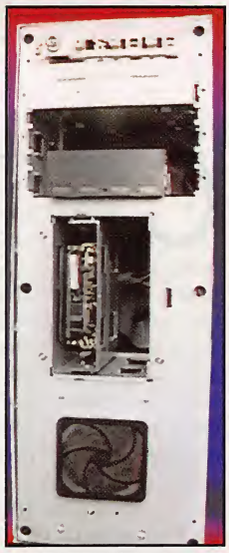
The IDE controller built into the motherboard of 4000 desktops is also built into the 4000T's motherboard. You can plug up to two IDE drives into this interface, and don't forget the seven drives that can be plugged into the SCSI interface! Powerhouse or what?

Yet another interesting feature is the internal speaker. No, it doesn't make "beep" sounds like a PC's internal speaker, but instead delivers a whopping 0.25 watts of mono Amiga sound! It's a good idea if you don't have any external speakers of your own wired up to the tower. And if you don't want any sound at all, press the audio disable button at the front of the 4000T and a little light will go off and so too will the sound.

Does this Amiga have AAA graphics, some people may ask. No, but it does have Workbench 3.1 instead, not much of a consolation but it's a another step nearer. There are no obvious differences to Workbench 3.0, but because no manuals were supplied with our review model I am unable to find any moderate changes.

The Input Output module, pictured from the inside the tower.

Conclusion



Behind the front panel.

So is the 4000T is disappointment or monument of Amiga technology? Put it this way; it was no more than what I was expecting apart from the extra video slot and modular bits. A 33Mhz 040 wouldn't have gone amiss, but the tower looks a lot better when compared to Macs and PCs than the desktops 4000s did. It's still a lot of money for a computer but you can't complain when the only altern-ative is a Mac or PC!

This machine is the flagship of Amiga computers and it actually looks very much the part! Powerful from the inside out, it's not hard to realise the potential oozing from every crevice. I'll end by echoing the cries I hear from around the Amiga community - I WANT ONE! *AUI*

RATINGS

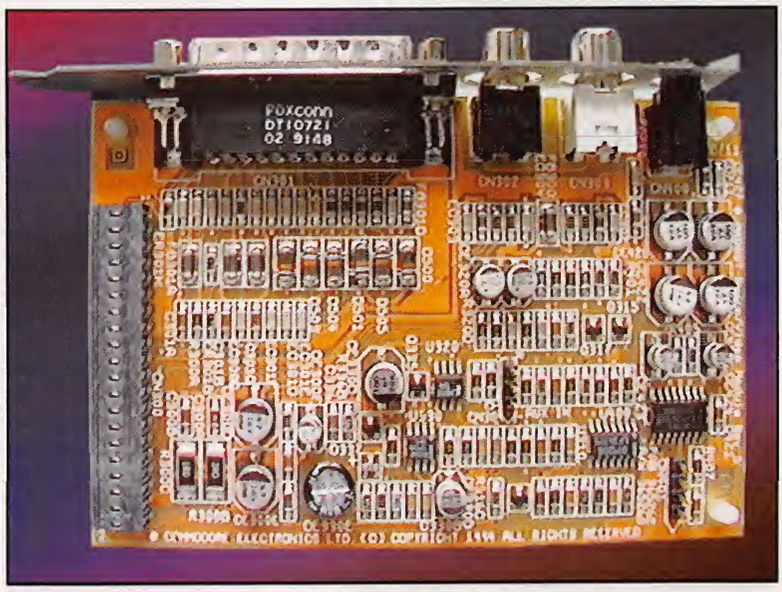
A4000T

FEATURES	95%
PERFORMANCE	95%
VALUE FOR MONEY	89%

Overall Rating 94%

INFO

Price: Starts from around £1899



The Audio Video module: RGB video, audio, and headphones.

Magic Lantern

Gary Fenton test drives a bit of magical software for editing animations on the Amiga.

Creating animation on the Amiga is really a doddle. There's plenty of software for drawing, rendering and animating and, of course, there are programs like DPaint which offer animation editing features. But what about 24 bit animations? There seems to be a lack of software in this area which is why I was particularly pleased when the honourable Ed handed me a copy of Magic Lantern, fresh from the sunny sands of California.

After reading the exciting blurb on the back of the package I was expecting something like FRED (part of ADPro) where you can graphically see each frame of the animation. Instead a dull and quite uninteresting screen appeared waiting for some human input. At this point I read the 50 page manual which I found very informing and amusing in places. *(Read the manual? That's a little unusual for you, isn't it? ED)*

Framed

Now, fully enlightened, I can take a series of 24 bit frames and convert them into an animation file which will play back through Retina, Opalvision, Picasso, EGS, Spectrum, and GDA graphics cards. Naturally it will create Amiga animations too but the frames must be no more than 8 bitplanes deep. (Lantern won't re-render images to different resolutions - use ADPro/ImageFX for that).

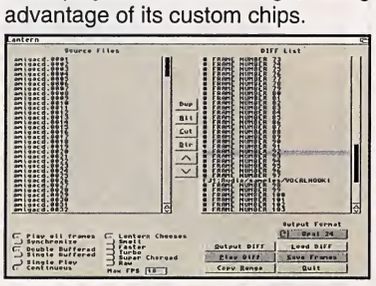
One of Lantern's biggest selling points is the ability to add synchronised sound samples to animations.

All the frames that make up an animation are listed on the right of Lantern's screen and the other side lists the contents of a selected directory, which should contain your 24 bit files. Simply click on the names of the frames (files) that you want to include in your animation and the names appear in the animation list. You can select a whole range of frames in one go by typing in the first and last name of the sequence. A multi-select feature (hold down shift key and click with mouse) would be a much faster method instead. Maybe in the next version?

The frames in the list can be rearranged, duplicated and cut very easily using the mouse to select a frame and then a button to perform the editing function. It's a blind way of editing because you're lost if you haven't made a note of what each sequence of frames looks like. An option to preview a selected frame is a serious omission.

Different Ideas

Lantern uses its own animation file format called DIFF. The author explains that he needed to create a new animation format because the Amiga's ANIM format was hard wired for optimum playback on the Amiga, taking advantage of its custom chips.



Don't let this dull screen deceive you.

Playing an ANIM file on anything but an Amiga would be very slow indeed. However, DIFFs are optimised to play back on any display device.

Lantern offers five levels of compression ranging from Small (reasonable speed and small file size) to Raw (no compression - very fast but big file size). Alternatively, Lantern can choose the compression level automatically on a frame by frame basis. This option seems to work the best in most cases. Playback speeds are very good indeed, bearing in mind any hardware limitations.

One of Lantern's biggest selling points is the ability to add synchronised sound samples to animations. Just include the name of the sound sample in the frame list and it'll be played at exactly the right point in time - to the frame!

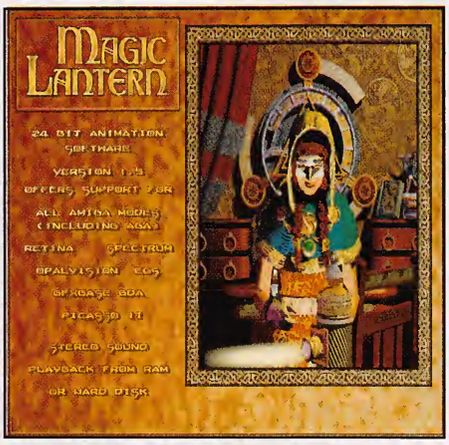
Animations can be locked to play back at a specific rate. If your computer can't quite keep up with it (say at 25 fps) then a "Synchronize" option will automatically drop frames during playback in order to keep the animation running at the specified rate, and therefore any sound will stay in sync. Excellent!

Once you've created your DIFF anim you can play it back from within Lantern or use the freely distributable DIFF players.

One player spools the DIFF from the hard disk and another loads the DIFF into RAM before playing. DIFFs can also be taken back into Lantern for further editing.

Conclusion

Magic Lantern is a powerful tool which should be on the shopping list of any serious animator. Firstly, becuase if you own any of the 24 bit cards it supports, and because secondly if you need to add perfectly timed sound to animations. I've used Lantern for both Amiga (HAM8) and Opalvision animations and I'm very pleased with the results. Even if you buy it just for the sound, you can finally add the finishing touches (like sound effects) to your animations. This is what I've been waiting for! ***AUI***



A frame from the demo animation.

RATINGS

Magic Lantern

FEATURES	70%
PERFORMANCE	92%
EASE OF USE	85%
DOCUMENTATION	85%
VALUE FOR MONEY	80%

Overall Rating 82%

INFO

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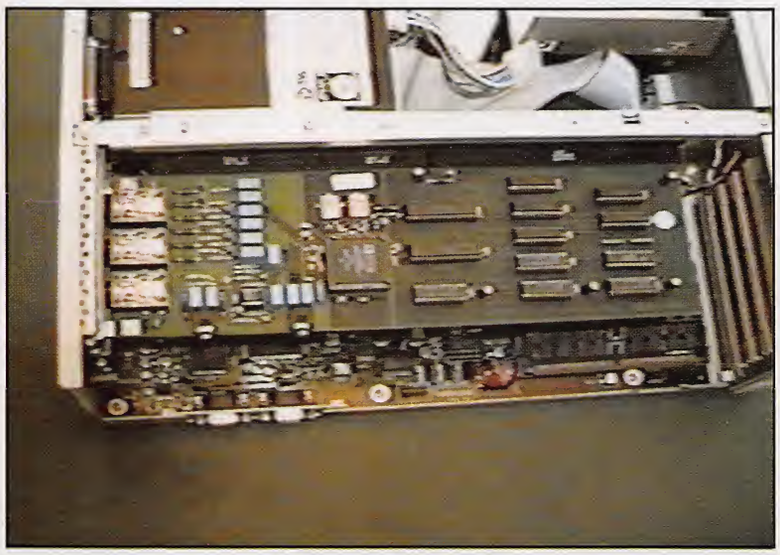
Sounds GREAT

Stephen Broadbent test drives the Toccata board which might be the sweetest sound sampler to hit the Amiga.



A picture of the board installed.

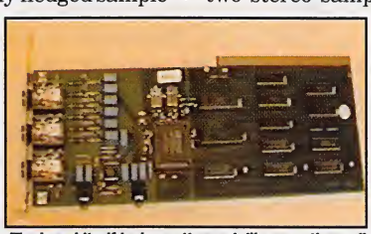
MacroSystems have already made a name for themselves in the Amiga community thanks to the excellent VLab digitiser and the Retina 24 bit graphics card. With the 16 bit sampler Toccata they attempt to do for Amiga sound what the those two products have done for video and graphics.

The Toccata hardware is a Zorro 2 card which fits all big box Amigas, effectively ruling out its use on the A1200 and below. At the back of the board are the connections to the outside world, namely a stereo line-in, an aux input and stereo line out. On the board itself sitting next to a second auxiliary is the microphone input. It certainly looks impressive, but as all Falcon users, and no doubt the new Apple PowerPC people too, will tell you, the hardware is only as good as the software that supports it. Fortunately, this is an area where Tocatta shines. Packed on two disks, the first contains the main set-up software and Toccata Tools, with the sampler software Samplitude MS on the other. Set-up is taken care of automatically after the initial installation by way of the user-startup or WB startup, whichever you prefer. The Toccata software, now updated to version 1.1 and with its own ARexx port, consists of a control screen, a jingle player, sample player (eight and sixteen bit) and of course, the recording software. Toccata control provides the interface to the hardware and this is where you begin to see what the board can really do. Mono and stereo sampling in 8 or 16 bit, adjustable sample rates from 5,513hz all the way up to 48khz, which is the standard for Digital Audio Tape recording. (Normal Amiga samples are usually recorded at 22.05khz, CD quality is at 44,1khz.)

Direct to Disk

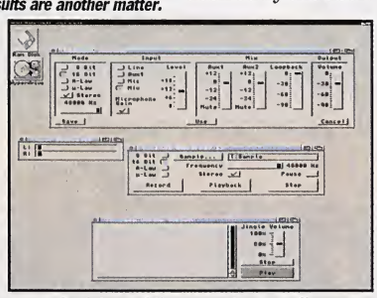
As if that weren't enough, the board also offers direct to disk recording and hardware compression, which are both essential in the world of modern sampling. From here we also control which input to use with a choice of Line, Aux1, mic and mix, with mix combining the two auxiliary ports, thus allowing sampling from two separate sources at the same time. Another useful feature is the level indicator which helps in getting the signal strength at the right level before sampling begins.

Recording a sample is simplicity itself, with the user given a choice between the Toccata's own recording software and the fully fledged sample editor on the second disk. Although the Toccata recorder does an excellent job, it is very basic and has no editing functions built in. This is where Samplitude MS steps in. Incorporating all the functions you would expect from a good sample editor, for example, cut and paste, amplitude control, the usual special effects as well as all the 'ings (mixing, fading, shifting etc.), SMS stands out because of its advanced range control and use of "projects". A project can be either Mono (a single sample), Stereo (two samples) and Quadro, whereby a quadro project allows four mono or two stereo samples to be played simultaneously and saved as one sample. The range control is not hindered by only being able to select one range within a sample, but any number of ranges desired by the user. Each range is given a number (called playlists) and can be played back in the order selected. The programm does have its minus points however, complete lack of midi support will alienate many potential buyers of the card as will the non-existent SMPTE mode, essential for synchronising music to video. (However, an upgrade to Samplitude Pro II is available and offers both these features and more, including, among other things, Pure Digital Recording.) This should not worry users of Macrosystems VLab Y/C though, because as the otherwise well written documentation fails to mention, selecting the Toccata option on VLab's IFR control panel will not only grab the video sequence selected, but the soundtrack to go with it! Also, with the updated version of MediaPoint providing a module for Toccata and Scala promising one in the near future, the board's future in the world of multimedia presentations looks assured.

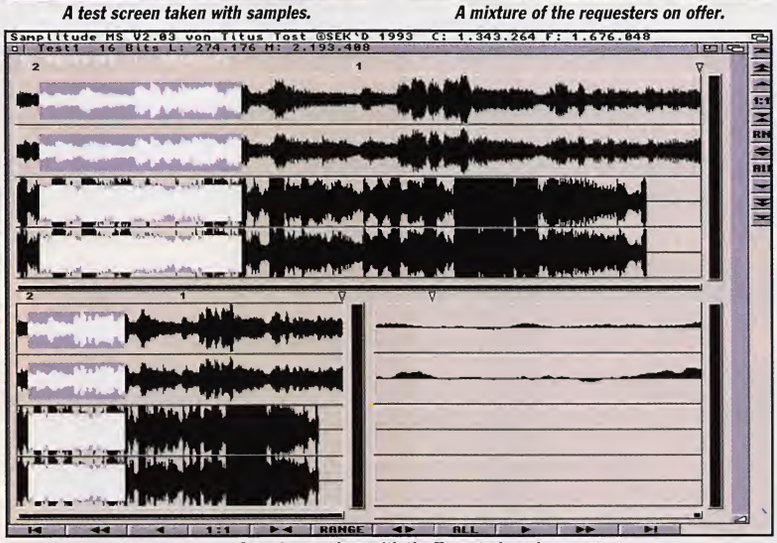


The board itself looks pretty much like any other collection of chips, but the results are another matter.

A test screen taken with samples.



A mixture of the requesters on offer.



Samples on show with the Toccata board.

Conclusion

What's this? A review of a 16 bit sampler without a mention of the sound quality?

Save the best 'til last is my motto and that is definitely the case here. Put simply, the quality in both 8 and 16 bit is stunning. A real pleasure to the ears. Buy it and see. ***AUI***

RATINGS

Toccata Board

FEATURES	90%
EASE OF USE	95%
PERFORMANCE	94%
DOCUMENTATION	85%
VALUE FOR MONEY	90%

Overall Rating 92%

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+2922 (AB) CHARLEY CAT 2
"Down At The Sea!"
+2872 (ABCD) MEAN MACHINE
Great AD For Commodores CD32 By Craig Collins! 3.5MB Needed!

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How To Convert Power Drive To Read DD's As HD' Disks
+3083 CD32 > CDTV PATCHES
Run CD32 Games On CDTV When Parnetted To A1200.
+3081 CHEQUE MATE
Simple Cheque Book Manager
+3072 (AB) A64 EM. V3.0
Upgraded C64 Emulator.
+3071 CD-READER
Easy To Use Parnet Clone!
+3069 STEREOSCOPE
Shareware Stereograph Creator
+3065 X-PASSWORD
Hard Drive Password Util
+3063 COLOUR SWAP
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+3058 VARK CLI UTILS 4
Compilation Of C.L.I Utils.
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GFX Utils For AGA Machines.
+3053 CITIZEN PRINTER MNGR
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+3054 ASI FIX DISK II
Loads More Compatibility Utils.
+3051 ACCOUNT MASTER 2.21
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+3052 EAGLEPLAYER
Superb 700K Module Player!!
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All The More Commonly Asked For Utils Compiled By Our Rob!
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+3057 JCB SAMPLES #1
Jazz, Classical & Blues Samples
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Some Nice Amiga Toons.
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+3073 FRIENDS OF PAULA 1
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+3070 FRIENDS OF PAULA 5
More Musak For Paula Fans
+3066 INFINITY
Very Nice Plazma Cycle Demo.
+3061 (AB) SEVEN SEAS S/S
Superb Gothic Fantasy Slides
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+3033 BIOMECHANOID
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Possibly The Best Ever Musak!
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Groovy AGA Ostrich Demo!
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X3016 FAIRLIGHT FULL MOON
Superb. Fairlight Do It Again.
X3015 NOXIOUS:
Demo Titled "Beyond Belief"
X3014 (ABC) INNESTATION
Present Ray World. Excellent.
X2934 VOLCANO AGA
Colours Bobs Sounds, Its All Here!
X2933 (AB) COMPLEX "ORIGIN"
One Of The Best AGA Demos Yet!
X2932 SMELLS LIKE CHANEL 5.
Excellent Production From ARISE
X2930 XANADU - EXPLICIT II
Another Worthy AGA Presentation
X2929 ABSTRAX PIG BY VIVID
Wierd Name, Nice Demo.
X2918 EMPTY HEAD AGA
Good AGA Based Demo.
X2891 TROJAN AGA
Techno Trax II

AGA SLIDESHOWS

X3076 (AB) BODYSHOP 7
More AGA Glamour Girlies.
X3075 (AB) BODYSHOP 6
Well Popular AGA Glamour Pics.
X3060 (AB) NIGHTBREED #3
More Top Qulaity AGA Pics.
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Superb Hand Drawn & Traced Pictures. Ferrari & Misc Objects.
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Driving Force

Andy Eskelson tests out the Mitsumi CD ROM drive, the serious side of the medium that will carry the future of computing.

You will probably have noticed that the fastest growing area of computing at the moment is that of multimedia. The heart of this technology is the CD-ROM. By itself the CD-ROM is not multimedia, but it is most definitely the medium that much software will be distributed on in the future.

AUI carried the world's first Amiga CD coverdisk a few months ago and PC mags have also occasionally used them. However if you look in the newsagents now, there has been an explosion in the number of CD ROM coverdisks. I know that most are for the PC, but the basic technology is the same and the Amiga community has benefited and will benefit even more from this upsurge in interest.

The heart of the system is the CD ROM drive, the number in use has now pushed the price down to a point where £100 will buy a very basic unit. This low price has meant that it is economical for third party manufacturers to develop products for platforms other than the PC, namely the Amiga.

This story starts back in February 1994 when Brian Fowler put up a message on the CIX conferencing system asking for comments and interest in a CD ROM system for the Amiga. Brian must have been happy with the response, as he now has the product available for sale.

The system is based on the very well known Mitsumi CD ROM drive and what you actually get is a complete PC system including interface card and software, not much use to the Amiga! Included in the box were three PC CD-ROMs, more about these later.

The Amiga interface is a small postcard sized unit made by Alfa Data. Alfa Data has been in the Amiga Business for quite a few years and I have been using their 256 level Hand Scanner and interface for a couple of years without any problems at all.

Hardware

The hardware supplied is the Mitsumi CD ROM Drive. This comes in two versions, either a single or a double speed unit. The model under review is the double speed drive.

This is a standard 5.25 inch form factor, with rear connections for the interface, power and Audio. The front panel has the CD Drawer, CD Eject button 3.5 mm headphone socket and a manual volume control.

The Alfa Data interface is about the size of a postcard and has 8 chips, two connectors and a few other components on it. The layout and design is very clean and simple. I would not expect to encounter any problems with this at all.

And here it is, the CD ROM.

Software

The Alfa Data interface comes with a single 3.5 inch disk that contains all the required software.

Documentation

There are three handbooks supplied with this system. The first is the CD ROM Drive handbook. This has a lot of information for PC users, but don't throw this away, as it also have the connector information and instructions on how to release the CD Drawer if the power fails.

The Alfa Data interface has two handbooks, the first is for the CD ROM interface and the other is for the HD Installation Tools. This is the first bonus, the interface has two connectors on it. One is for the CD ROM, and the other is for an IDE Hard Drive, or a removable media drive.

Requirements

This product is designed to fit internally so you will need:

Amiga 1500, 2000, 3000 or 4000 with a free Zorro expansion slot and 5.25 inch drive bay. You will also need a free large power connector. WB2.04 or better is MANDATORY.

Fitting

If you have ever fitted a drive or other internal unit to the Amiga, this part of the installation will be nothing new. Disconnect all mains and open up the Amiga. Locate the CD ROM Drive in the 5.25 bay, but connect all the rear connectors first. (Interface lead and power)

Make sure that you align pin one on the connector with pin one of the lead. If you have an A4000 you can make use of the internal audio connector. To do so, you will have to cut off the end of the audio lead supplied

with the CD ROM and replace it with a 3 way 0.1 inch connector. Maplin Electronics are one source of such connectors. (Order codes BX97F and YW25C) Fitting the drive in the 5.25 bay was the only problem area that I encountered. The screw holes in the mounting chassis were slightly too small to allow the mounting screws to pass through. A simple cure, remove the chassis from the Amiga and then drill out the holes slightly, or as I did, a couple of turns with a tapered reamer was enough to do the job. Refitting the chassis, and fitting the drive was a simple job after that.

If you are fitting the drive to an A3000 or 4000 you will find it much easier if you use the uppermost Zorro slot for the interface card. You do not need and rear panel space, as the card has no mounting bracket at all (it is that small) Connect the interface cable to the CD ROM connector and that's it. Reassemble the Amiga and proceed to the software installation.

Installation

You must have the hardware installed before you start the software installation. This is because the installation process reads the type of hardware fitted and loads the correct versions of the software for you.

The installation process is controlled by the Commodore Installer utility and you just tell it where you want to store the system files and let it get on with things. This is a very boring process that takes all of two minutes to perform.

The software installed is:

The CD ROM filesystem, a preferences program and three utilities.

Eject CD, this opens and closes the Drive drawer, and is provided because the manual eject button is slightly awkwardly positioned. In use I found that I soon got used to where it was.

KillDev, this removes the CD ROM filesystem from the Amiga's memory. This is provided just in case you run into compatibility problems and you want to recover the memory and disable the drive for any reason. So far I have not had to use this utility.

PlayCD, pop an Audio CD in the drive and use this utility and you have a standard CD player. The Audio quality is very respectable and PlayCD provides a good range of facilities for this function.

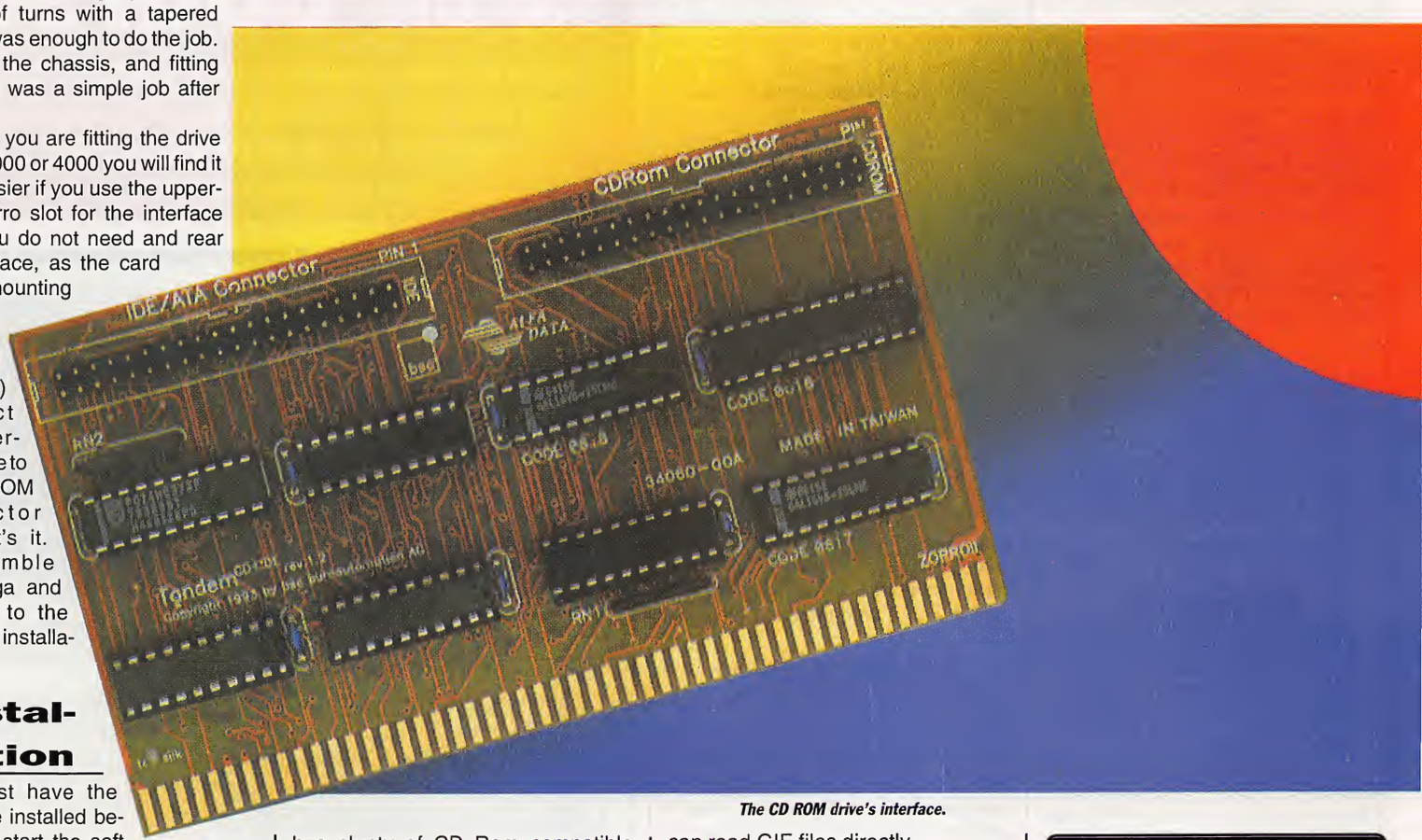
Operation

You will need a CD ROM of some sort, the ***AUI*** coverdisk will do, but don't expect the CD32 programs to run! But the Coverdisc on this issue has plenty of CD Rom compatible stuff. However, a better bet are the superb CDPD 1,2 and 3 disks by Almathera. Pop a disk in the drive and in a few seconds the disk Icon appears. Use it just as any other Amiga disk. I prefer to use a Directory utility for browsing, and for another reason. Remember the PC CD ROMS that I mentioned? Well, pop one of them in the drive and up comes an Icon. The driver can sort out the conversion for these CD ROMs without you doing anything at all.

You will need to use the show all files option from the Workbench, as PC files do not have any Icons, but you will find quite a few GIF files and such like. Remember that PPaint can read GIF files directly.

The driver is slightly crippled as supplied designed for the Mitsumi package and it can only read ISO 9660 format disks. The full spec driver can be used with any CD ROM and can read Rockridge and MAC HFS filesystems as well.

Quite a lot is made of the speed of CD ROM drives, so running a tests by copying a big file, in this case the text of the Bible (on CDPD3) first the text was copied onto hard disk. The test was to compare the copy from hard disk to RAM disk, and then to repeat the test from CD DRIVE to RAM disk. A simple script file was used to drive the test so that everything should be the same. ***AUI***



The CD ROM drive's interface.

Output of script:
copying from hard drive to RAM:
4947148 bytes
Saturday 16-Apr-94 13:37:34
Saturday 16-Apr-94 13:37:45
Done
deleting RAM file
ram:The Bible Deleted
copying from CD ROM to RAM:4947148 bytes
Saturday 16-Apr-94 13:37:46
Saturday 16-Apr-94 13:38:06
Finished
The process took:
11 seconds from hard disk to RAM: approx. 450K/s
20 seconds from CD to RAM: approx. 250K/s
As the quoted transfer speed on the drive is 300-350K/s this result is well within the limitation of the software, hardware and test script!.

RATINGS

CD ROM DRIVE

PERFORMANCE	95%
FEATURES	90%
EASE OF USE	100%
DOCUMENTATION	90%
VALUE FOR MONEY	90%

Overall Rating 93%

INFO

Contact:
Brian Fowler Computers Ltd.
11 North Street,
Exeter
Devon
EX4 3QS
Tel: 0392 499755

Price:Single Speed CD ROM Drive and Interface £199 Inc. VAT
Double Speed CD ROM Drive and Interface £259 inc. VAT

PAR for the course

Barry McCarthy sees how the Personal Animation Recorder copes in a professional environmemnt.

I expect most avid Amiga readers will by now, have heard of PAR, the Personal Animation Recorder from DPS Inc.hen I first read about it, it sounded like every animators dream come true. A device that allows you to record and play back, full PAL, 24 bit animations, at 25 frames per second. It sounded highly unlikely but they said it worked. Then I saw the real thing ACTUALLY working, at one of the ACE seminars demonstrated by Joe Benzing of Commodore.

Now, to me, this was a major break-through. Not only for what it did, but that it actually did prcicely what it said it did. Doesn't sound unreasonable but how often have hyped products been a let down? That's the sort of thing that really hurts the Amiga and stops it being taken seriously in the professional market. Just look at Mac software, it's either Good or Excellent. They just don't release crap, because it wouldn't sell. That's how it should be.

In the last issue ***AUI*** had review of the board from teh viewpoint of an enthusiastic user, but we decided that such a special Amiga development should be examined by someone who would use it in a professional creative environment, to put the PAR to the professional test.

System

Computer - An A4000/040 with 18MB RAM, 250 MB IDE and the X-Calibur accellerator card. The PAR card. The AD3000 capture card. A 1.7 GigaByte Microplis IDE drive.

Video - A Sony High-Band U-Matic suite. A Sony Beta-Cam suite. A Sony broadcast camera. A VHS and S-VHS cam-corder and VCR.

Let's Go

Installing the PAR card and the AD3000 was not really a problem. It's a bit tight in the A4000 but it all goes in. The harddrive was more of a problem. We had to drill some mounting holes in the side of the 5 1/4" drive bay but it went in.

When all my JPEGs were converted onto the PAR drive, it was time to record them to tape.

The software was installed and then immediately updated via the DPS BBS in the satates. They seem to be updating the software every week or two. Excellent. The only problem is the lack of a feedback utility on the board.

Now all we have to do is run the software and learn it. The manual is generally very good and very clear although some of the new additions and changes to the sofware are obviously not mentioned.

It took me about a day of fiddling around with Q factors and block sizes to really say that I knew the system well. Not an inordinate amount of time.

So let's see how PAR can be used in an every-day professional setup. The ideal, is to have a permanent link from PAR to say, a Beta machine running in component video. This needs a total of 6 BNC leads. 3 for output and 3 for input. This will provide you with the ultimate in quality.

The first thing I did was to create a GFX showreel, using a whole bunch of my backed-up JPEG animations. All you do, is set the PAR to Anim import with the Filter on, Q factor at 23 and the block size, in my case, at around 220 to 250.

Now PAR will only really import IFF_24 bit files (now updated to include most IFF resolutions), so you'll need another piece of software in between. In this case the 1.3 version of Pegger does the job without a single problem. When it's all set up, just select the files and press Import. PAR will take around 4 to 7 seconds to process each frame, plus JPEG decompression time. When all my JPEGs were converted onto the PAR drive, it was time to record them to tape.

£150 a Day

This is where you realise just how super dooper the PAR is. Just set an edit 'in' point and press play on the PAR, as soon as you want it to start. If your animation is 30 seconds long, it will take 30 seconds to lay it down to tape.

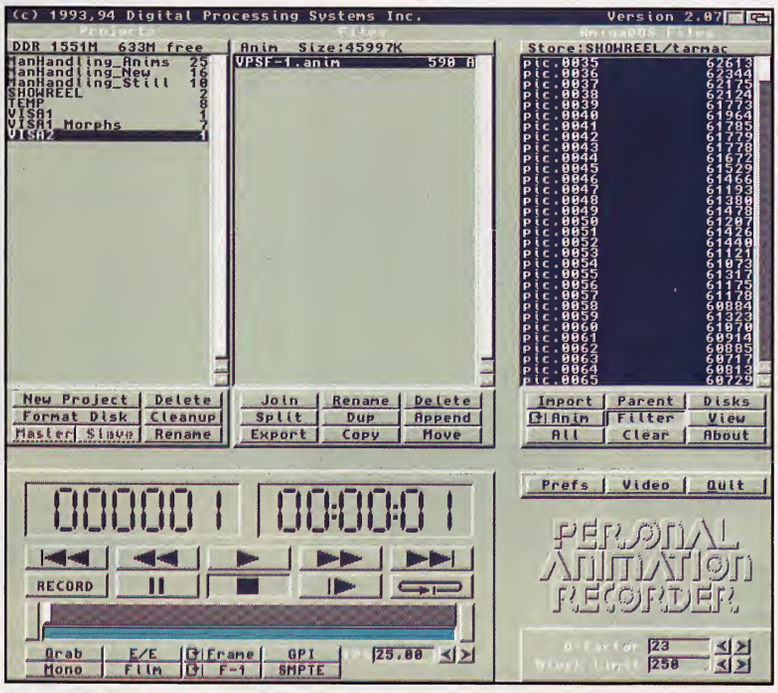
With a frame controller and JPEG files, a 30 second animation would take around 6 and 1/4 hours to lay to tape. At Beta hire rates of around £150+ / day, that works out at about £150 or slightly less if you're lucky. Ouch. That now makes each of your jobs more costly for your clients, or your profit margin has to go down.

The other benefit of PAR, is that you can play your animations BEFORE you go to the expense of laying them to tape. That way, you KNOW if they are going to work or not.

Capture

The other posibility for the complete PAR system, is its ability to capture video in real-time. Yes, it really does work! But, there are limitations.

In order to compress and save each frame of video on to the PAR drive, you must manually set the Q factor and block size for EVERY capture. I found that Q = 10 and block size = 250 worked for most video clips. It depends entirely upon how much



Building a PAR anim.

movement and scene changing there is in the video and how long the recorded clip is. The longer and more complex, the lower the quality you can obtain.

PAR saves each frame of animation or video as one frame in an animation.

There are loads of superb possibilities here:

Timelapse with a camera. Just point it out of the window and wait for a day. Hey presto, a day, animated.

Manual grabbing. Each time you press the mouse button, you grab another frame. Excellent for promo and MTV style stuff.

You can even reverse video or play in variable slow-mo. I would suggest play back in field mode, not frame mode, or you'll get jitter. How about some form of interpolation DPS? Another problem with reverse anims, is that all the interlaced line are now the wrong way round. It flickers oddly. Is there a way of reversing fields as well?

On the whole, grabbing from video is good but not quite as good as the play back quality. It seems to be around High-Band U-Matic.

Fact File

It's about here that I ought to make a few things really clear. The PAR is NOT a non-linear editing system. You would need a JPEG board for that. PAR saves each frame of animation or video as one frame in an animation. Each new frame is saved as delta-data. That is, only the differences between the last and current frame are saved. This is how it can all work so fast. You are not having to shift so much information around. This is also

A perfect PAR grab.

why complex animations may fail to play properly, without reducing the quality factor.

The more the difference between successive frames, the more delta-data there is and the more information the hard drive has to save every 25th of a second.

Because PAR essentially creates anim files (in its own format, of course), any editing of the files, such as cut and paste, requires the rebuilding of those edited anims. This all takes time and negates the use of PAR as a non-linear editor.

Everyday Use

There is no doubt in my mind about the conclusion that I am coming to. PAR is wonderful. It will save loads of time and money and create a far more professional and efficient setup. The software and hardware are a dream to use. Simple, quick and bug free, with constant updates and useful help at the end of a phone.

Output and playback quality is very clean indeed. Is it as good as Beta? I would have to say that it probably isn't, quite.

It never slows down, but in some cases, if you look very close, you can see slight distorting, where the compression has occured. This is acceptable as far as I'm concerned, or until my clients tell me otherwise, but if you're very fussy, you might want to think again.

Also, you'll need to think carefully about your rendering software. Good anti-aliasing and the ability to use Field Rendering are essential here. Lightwave 3.1 and Imagine 3.0 will both achieve this. Other than that, it's all rather impressive. That is not to say that it is all perfect. There are a few niggles and questions:

JPEG support for Import an Export of files seems essential to m Is it on its way as promised? AREX scripts for batch processing of PA anims would be nice.

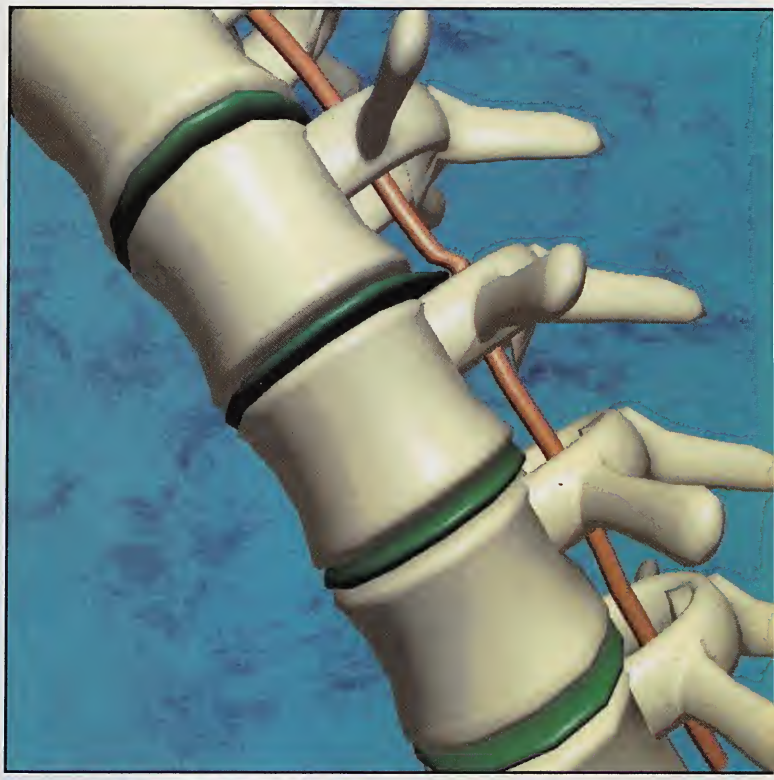
SMPTE, time code support a big ommision at present but a majo upgrade is adding this soon.

Updates

Transparent loading and saving t PAR. This means that any prograr will be able to load any PAR frame c save to PAR, with out having to sup port it directly.

VTR emulation. This will b software and a seriel cable, to attac to an edit controller. The PAR will the be treated just as another VTR. digital player, basically. This will b really useful!

Another job done with PAR.



Striking a spinal chort . . . Part of a PAR anim.

The ADPro 2.5 PAR loader only works in NTSC. It's supposed to have been updated, but I haven't seen it yet. Directory Opus 4.1 does NOT work with PAR. This is a problem with Opus, which is being fixed.

Personal Conclusion

The best piece of Amiga hardware since the Amiga A1000. ***AUI***

BIG THANKS

My huge thankyous must go out to;
Clive Vickary at the UK arm of DPS, for his help and friendly attitude. Tel: 0252 718300.
Brick from DPS in the USA for technical assitance and software update promises.
John Reeves at Thame Systems Ltd, for the excellent Micropolis hard drive (IDE it may be but at 3.8 megabytes a second, sustained, it's goddam fast!). By the way, Thame Systems sell some very nice products indeed. Give them a ring if you need fast IDE or SCSI or backup systems.Tel: 0844 261226.

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HAVE YOU GOT WHAT IT TAKES?

Fed-Case

Andy Eskelson gets on the case with a flowchart generating programmer's tool.

There is a very true saying that programmers are extremely quick to criticise the level of documentation contained within another programmer's program, when they are just as guilty themselves of the same crime!

This may seem to be rather a petty thing to comment on and it is true to say that for the short 20 line program it should be fairly obvious as to what is going on (personally, I still maintain that at least a good descriptive header should be provided)

Now let's make things a bit more complicated and say there are 2000 lines of code. Now this is a small project and you will find that you will need some comments in the code to jog your memory as to what bit of code does what.

Now let's make it even more complicated say you have 5 programmers working on the same project, each tasked with writing 10,000 lines of code.

You can see that as the projects get bigger the need to accurately document your work gets even more important. Some people say that the documentation is even more important than the actual code. In the years that the program is being used, there will be occasions when the program will need to be modified. Maybe not by any member of the original program-ming team. Whoever does the modifications will need to be very sure what the code is doing so that the modification can be done without causing problems elsewhere.

What Is CASE?

Now it is all very well talking about all this. Let's take a look at one of the most common forms of documentation - the Flow Chart - most people will have seen one sort of flow chart at sometime, many domestic appliances use them as instruction guides. This is for the very good reason that they are designed to clearly show how an operation progresses; hence the name flow.

What has this got to do with the Amiga? Well Fed-Case is a flow chart drawing tool. If it were just for this function, it would be a rather poor program, however there is a lot more to Fed-Case than just drawing flow charts.

If I said that as well as drawing the flow chart, Fed-Case will also write the 'C' source code that the flow chart represents, you will begin to see that Fed-Case is something rather special.

The name Fed-Case is a clue to what this program is. CASE is an acronym for Computer Aided Systems Engineering.

Installation

Fed-Case is provided on two disks and uses the Commodore Installer utility for installation. Fed-Case can produce very well commented flow charts and also source code. The source code is also well commented. In order to write the source code Fed-Case needs access to your compiler include files. This caused me quite a bit of head scratching until I found a reference to this in the manual. A simple assign and all was well.

Manual

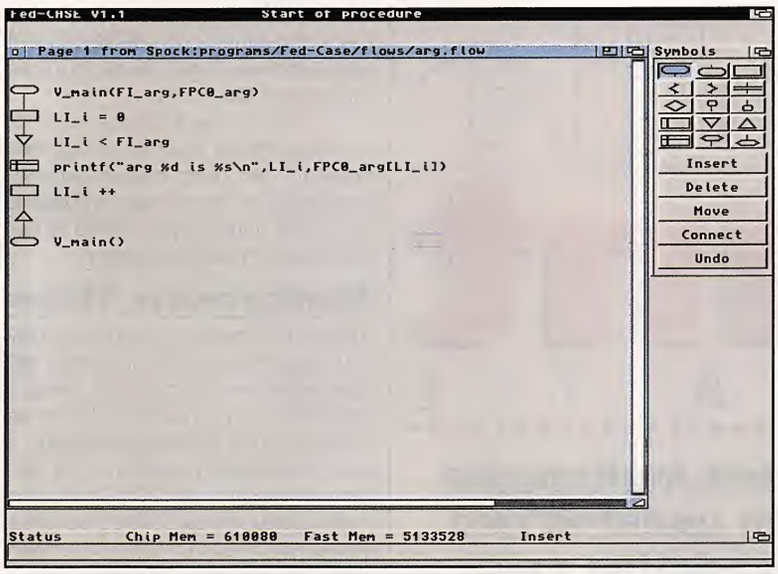
The manual is a 150 page spiral bound A5 book so it lays flat on the desk. There are one or two minor printing errors in the manual, normally the page number just overwrites a character or two. This causes no problems whatsoever and I expect that later print runs will have this problem corrected. The manual is well indexed and very easy to use. There is one area lacking in the manual however. Fed-Case assumes that you know all about CASE. Now anyone buying Fed-Case may very well know about it, but I have to say that the appeal of this program could be very wide, IF there were a couple of chapters on actually USING Fed-Case. This is the one and only weakness in the entire documentation.

Operation

Using Fed-Case is very easy, once you have set up the correct assigns. The program has two main windows, one is the worksheet, and the other is essentially a small control panel. This panel has icons representing the various flow chart symbols. You click on the symbol and then paste it down onto the worksheet. This is the point that I get really frustrated about. For some reason the author has decided that clicking the RIGHT mouse button would be the best way to paste the symbol down. On the surface he is correct, but I have become so used to using the right mouse button to select menu functions that I end up with unwanted symbols all over the place. It would have been better to use another method of pasting the symbol, perhaps by double clicking? The author has said that a future release will address this aspect.

Creating a program is a simple matter of placing the flow chart symbols onto the worksheet and connecting them together. It is normal for Fed-Case to make the connections automatically, but in some cases you have to make the decision instead of Fed-Case. This is normally the case when you have

The manual covers everything, with only one exception.



The main screen of Fed.

```
/*****************************************************************************/
/*                                                                           */
/*       Code generated by FED-CASE V1.1  Code Generator                     */
/*              © Joosen Software Development                                */
/*               All rights reserved 1993                                    */
/*                                                                           */
/*****************************************************************************/

/*****************************************************************************/
/*                                                                           */
/*                    Start of Includes                                      */
/*                                                                           */
/*****************************************************************************/

#include <exec/types.h>
#include <data/const_arg.h>
#include <stdio.h>

/*****************************************************************************/
/*                                                                           */
/*                    End of Includes                                        */
/*                                                                           */
/*****************************************************************************/

/*****************************************************************************/
/*                                                                           */
/*                Start of source prototype file                             */
/*                                                                           */
/*****************************************************************************/

#include <proto/proto_arg.h>

/*****************************************************************************/
/*                                                                           */
/*                End of source prototype file                               */
/*                                                                           */
/*****************************************************************************/


/*****************************************************************************/
/* Procedure  : void main(FI_arg,FPC0_arg)                                   */
/* Function   :                                                              */
/* Designer   : Christian Joosen                                             */
/* Date       : Sat Mar 05 21:39:02 1994                                     */
/*                                                                           */
/* Modificat  :                                                              */
/* Handler    :                                                              */
/* Modific.   :                                                              */
/*                                                                           */
/*****************************************************************************/

void main(FI_arg,FPC0_arg)
int FI_arg;
char *FPC0_arg[];
{
int LI_i;

 LI_i = 0;
while( LI_i < FI_arg )
{
printf( "arg %d is %s\n", LI_i, FPC0_arg[ LI_i ] ); /* printf:  */
LI_i ++;
}     /* end of while(LI_i < FI_arg) */
}      /* end of V_main */
```

multiple choice functions and a different operation occurs depending on a result.

Drawing the flow chart is only half the job however, you still have the give the exact command to any operation and this is achieved by inserting some text beside each symbol. If you put a function symbol onto the worksheet, you might enter printf("this is the first result %d",LI_var)

next to the function symbol. Now you might notice something rather unusual about the variable passed to the printf command. LI_var, well the meaning of var is fairly obvious, it's a variable. What about the LI_ bit that has been added. This is a system of defining what type the variable is. Fed-Case uses this information in its code generation and you must make use of it. It has a very useful side effect in that you can tell at a glance what the variable does. The code at the start of the variable can tell you if it is a Local, Global, Integer, Float Double, etc. so a variable indicated as LI_test tells us that the variable test is an Integer and Local to the function. This may sound like a long winded method, but I have spent quite a bit of time whizzing up and down source code, checking the types of the variables. This technique avoids the need to do this and is very simple!

The worksheet is not very big, but it is big enough for most procedures and it is very easy to extend the worksheet to another page by the use of 'connectors' which is a standard method when drawing flowcharts. Not only can the worksheet have many pages, it can also have 'chapters' this is likely to be used for subroutines or other functions that you want to use. (This is one aspect of Fed-Case that could do with a bit more explanation on the manual)

The generated code is also quite interesting. The following output is from a very simple program.

All the code is AUTOMATICALLY generated for you from the simple flow chart. Now you can see just what this program could mean. It enables you to produce clearly documented programs, that are easily maintained.

The speed of code generation is fairly good, but some 'power users' could get a little irked at it. A large project requires a lot of searching of the include files, so if you have the memory, load them into RAM: that speeds things up considerably.

The other bonus is that if you have the necessary include files, you are not limited to producing source code for the Amiga, just about any platform can be catered for.

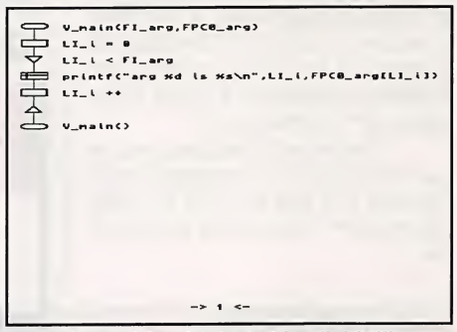
The other aspect is printouts, well, Fed-Case does provide printouts, via your normal preferences printer, the output is just the same as the worksheets, but the quality is a little rough. This is because a low level of graphic capability is assumes for the printer. The upside of this is that just about any printer will be useable and the output is not that bad. (If someone presented me with a software project documented with Fed-Case, I would be VERY happy with it.)

Conclusion

Fed-Case is unique to the Amiga. CASE tools exist for other platforms, but this is the only example of such a tool that I have come across. It is easy to use and is very powerful.

This is NOT a program for the raw beginner, as it does assume that a working knowledge of C and the Amiga.

But Fed-Case is one of those programs that fall into the 'nice to have' category, and will quickly become a must have for many programmers once they have mastered it. ***AUI***



A scan of the printed output from Fed-CASE.

RATINGS

FED-CASE

FEATURES	90%
SPEED	75%
EASE OF USE	60%
DOCUMENTATION	80%
PERFORMANCE	80%
VFM	80%

Overall Rating 77%

INFO

Price: £74.99
Contact:
Brian Fowler Computers Ltd
11 North Street
Exeter, Devon EX4 3QS
Tel: 0392 499755

Media Point UPDATE

The Amiga's newest multimedia package has been updated and Gary Fenton is updating you! The version of MediaPoint I reviewed in the May issue was 125 which was shortly superseded by 126, and now we have 127! My, Activa have been busy, so let's see what's new in 127.

The first thing I tried out was the visual file selector which produces colour thumbnails of the pictures contained in the current directory. Dithering has now been employed which produces excellent results and it's a lot faster than it was before. You still can't travel back and forth between directories while on the thumbnail screen, and full screen images can't be previewed. (Nor can sound or music files, or wipe transitions which is a big mistake considering there are so many good looking effects to audition.)

The Good, The Bad...

The page editor is just the same (irritating compared with Scala), but some menus that were previously in windows have been given their own screen at the bottom of the page editor. This is a bad move because the bottom section of the screen is not visible when you're in overscan mode, and nor (still) are the pull down menus! Mad!

Good news! MP now has four levels of anti-aliasing. It actually adds anti-aliased pixels around the outside of the font which tends to make level 3 and 4 anti-aliased fonts look quite bold. One thing that threw me about the anti-aliasing was that MP anti-aliases to whatever colour the background happens to be. That's brilliant, and MediaPoint deserves a round of applause for that! Nice one!

Staying with text, you can now use underline in a separate colour from the text and text can be made see-through and outlined in any colour.

A small selection from the 135 tiled backgrounds. Wild!

Boxes (really called windows) can have up to 21 new patterns applied to them and graphics can be optionally dithered using Floyed, Burkes, ordered or random techniques. The palette's broadcast limit features work in realtime so you can alter maximum, minimum, and average colour levels and see the results as you move the mouse! Good idea!

If you use a database which supports dbase files (most do) then you can load them straight into MP and select which records and fields to use. Very handy if you intend to use MP as an information system.

Bathroom Tiles

Instead of jamming up your hard disk with large hi-res background files, MP now employs "tiling" which takes a small IFF image and tiles the whole screen with it instantly producing a very impressive backdrop. 135 predrawn tiles come with MP127 including metal, grooved, paint, brick, graduated, wood, and heaps of others as shown in the example picture on this page.

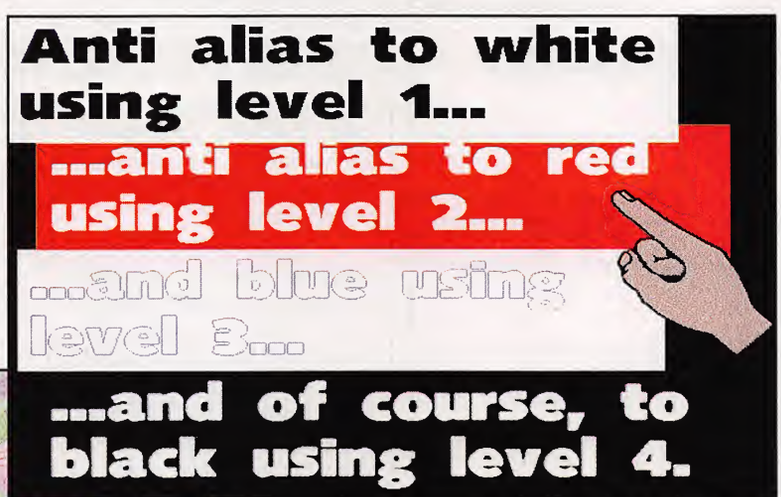
New Xapps include support for MacroSystem's Toccata 16 bit sampler. This not only allows you to play back 16 bit audio but you can record as well! A Genlock Xapp can been included to toggle through the genlock modes on ECS and AGA Amigas. The SunRize Studio 16 Xapp is compatible with version 3 of the software, and an new Xapp for Selectra's VuPort will control up to 8 Panasonic AG-1960 VCRs!

By chance I found that the runtime player no longer shows an annoying copyright message before playing your script. This is terrific news if you're looking for a multimedia package which can happily play back scripts on machines without the need for dongles and copyright messages!

Conclusion

A few things still annoy me about MP, like having to save the page as a file every time you go back to the script editor, and some bugs which cause the computer to crash several times a day. I've got into the habit of saving my script every ten minutes.

The best news of all is that the upgrade is totally free to registered users which will certainly put a big smile on their faces. It's an important upgrade which gives MP some really neat features and, dare I say it, makes it a much more practical tool than before! Keep watching... ***AUI***



Now you can anti-alias in 4 levels and it looks go no matter what colour the background is!

This tasty demo script comes with the 127 upgrade. Yummm, burgers.

INFO

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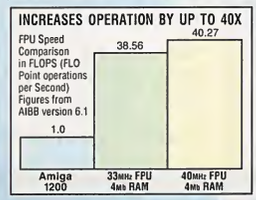

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Amiga COMAL

Paul Overaa test drives an Amiga programming language that may not be getting the exposure it deserves.

It's quite rare for me to go overboard about a language that is 'relatively obscure' but that is exactly what I'm doing this month and for very good reason. The language is UniComal's Amiga Comal which is their Amiga version of the high-level Comal programming language.

Comal was developed in the mid seventies as an alternative to Basic for teaching programming. The driving force for this was obvious because early implementations of Basic left much to be desired. There was a lack of decent 'structured programming' constructs, no while/wend loops, no label-oriented decision test branching, no procedures with local variables, and plenty of other shortcomings.

In fact, had Basic stayed as it was in the early days Comal would have wiped it from the face of the earth. The reason it didn't was that the Basic language matured and many of its shortcomings were rectified. Multiple line function definitions, local variables, proper procedures with formal parameters are now commonplace in most Basic implementations.

Amiga Comal's system link packages provide the programmer with easy to use 'Basic-like' graphics facilities.

Like Basic, Comal is an easy language to learn and many of the Comal keywords are so similar to Basic that you might easily think that a Comal program was a Basic program. Nevertheless, many differences do exist and today Comal, from an academic viewpoint at least, is still a far better language than Basic will ever be.

Comal supports the use of 'records' which allow groups of related variables to be logically tied together (so serving the same purpose as a C 'structure'). If you were writing an appointment diary program you might, for instance, set up an 'appointment' record that held time, day, month and appointment details. Blitz Basic incidentally does provide similar 'structure oriented' facilities with its NewType variables but most Basics do not.

Comal allows recursion (permitting a procedure to call itself) and it supports the idea of pointers, the use of variables which hold the addresses of other variables. Pointers, as any C programmer will tell you, are extremely important for implementing lists and all sorts of other data structures.

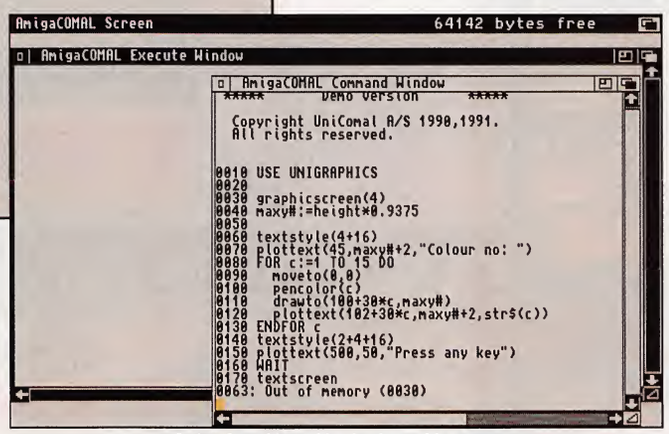
"Packages"

One of Basic's many disadvantages is that implementations are usually provided with lots of integral I/O and graphics commands. Now it may seem useful, when you first start programming, to have a language that provides inbuilt graphics keywords and functions - but after you've tried to port a few programs to other machines you soon realise that it is actually far better to keep the input/output (I/O) stuff isolated from the main elements of the language and this is exactly what Comal does. Amiga Comal then is not an 'I/O Amigatized' language like say AMOS - instead it uses interface 'packages' to provide links to things like Amiga graphics.

A package is a collection of procedures or functions, or a section of program code, held in a separate file. Comal programmers use them to build up libraries of easily accessible routines, or just to divide up large programs into more easily understood modules. Again this is just the sort of benefit that C and assembler programmers are used to having.

Amiga Comal provides a large selection of packages and there's even one that provides 'relative' graphics (i.e. Turtle graphics). The most important thing however is that packages are provided which give function call type interfaces to the important Amiga run-time libraries Exec, DOS, Intuition, graphics etc. In addition to this there are packages which handle Amiga devices, messages, screens, windows and so on.

The benefit in short is that lot of otherwise complicated operating system and Amiga programming becomes very straightforward. A good example here is the loadscreen() procedure which uses the iffparse library to load and display an IFF picture - a complicated job made very easy indeed!



Amiga Comal is an idea beginners' language

Comal, like Basic, offers rapid high-level development environment, with none of the difficulties inherent in Basic.

High Level

Comal has a reputation for being a language for beginners, but after using Amiga Comal for a few weeks it is clear that it deserves much more than this. Now I know that most programmers who move onto C or assembler tend to dismiss, or perhaps actively hate, all forms of Basic but if you fall into this class of user then it might be time to think again. Comal, like Basic, offers rapid high-level development environment, with none of the difficulties inherent in Basic. If, in fact, you are a proficient C or assembler coder and know how the conventional run-time libraries are used, you are likely to feel very at home with the Comal pointer, record and package ideas.

You'll also find it easy to mix Amiga Comal with your C or assembler code in a clean way and to integrate your existing Amiga knowledge into the Amiga Comal environment.

Amiga Comal provided a pleasant surprise for me and I'd recommend it to anyone who fancies trying an easy to use, well structured, language. *AUI*

INFO

Price: £74.03
Contact:
MacharSoft,
5 Elm Grove
Newton Stewart
Wigtonshire DG8 6JT
Tel: 0671 403441

RATINGS

Amiga Comal Version 2.10

FEATURES	85%
DOCUMENTATION	85%
EASE OF USE	95%
VALUE FOR MONEY	95%

Overall Rating 90%

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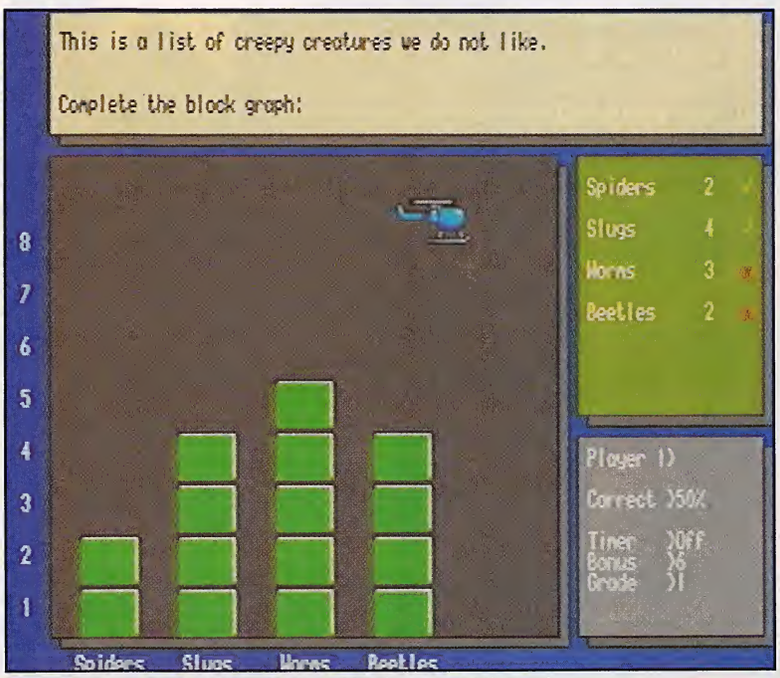
Fun Learning

Martin Witton paints the rainbow and charts the progress.



Drop blocks and bombs to correct the graph.

MATHS STATISTICS

10 OUT OF TEN EDUCATIONAL SOFTWARE

From the formidable to the familiar, Maths Statistics offers the tried and tested formula of other programs in this series. Had I not reviewed SmartyPaints first, I might have been daunted by the subject of statistics, but knowing the style that 10 Out of 10 have successfully developed, it was quite a relief to try it out!

Covering major areas of the National Curriculum attainment target 5, the program is geared to 6 to 16 years.

Parents may wonder why Maths Statistics with such topics as Probability, Charts and Data Handling, starts with such junior school children, but as with Maths Algebra, which won the AUI Edutainment program of the year award in 1993, approaches to learning have moved on considerably since most adults' own school days.

Take graphs for example, much project work, which is utilised throughout the school curriculum, can be illustrated with computerised graphics, and this program through the characteristic fun approach can help children of all ages understand the basis of the required concepts. 'Bomber', the first game in chart format asks the player to reshape the graph to match the information.

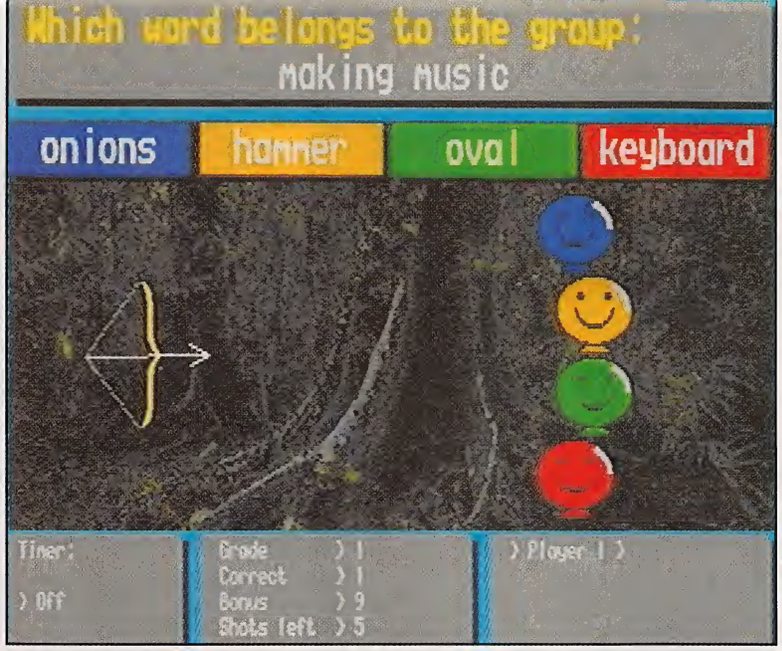
'Survey' requires observation skills to spot common sights - types of birds, insects etc. The results are analysed and recorded in a statistical way. 'Cheers' is presented in a snakes and ladders format (10 Out of Ten usually manage to adapt this game to the subject in hand!)

Traditional computer game formats are utilised - the shoot 'em up `Sniper' offers arcade action combined with questions about various types of charts and graphs. `Whack It' shows the fairground shooting target game while learning useful facts.

Finally, 'Archer' requires a careful aim and fire at balloon, but inevitably you have to get the answers right too.

There is an added bonus of a free game included - Wordfit, designed to improve spelling of words connected with statistics

With three sets of age correlated graphics, certificate and assessment printing for up to 64 children and achievement record to measure each child's progress, 10 Out Of Ten has come up trumps again with this easy to use program by providing a fun way to learn about a different aspect of Maths. I know that 10 Out Of Ten themselves think that this is possibly the best edutainment program they have produced - and they could be right.



Popping the balloon isn't easy.

RATINGS
9/10
INFO
Ten Out of Ten Educational Systems
1 Percy Street Sheffield S3 8AU
Tel: 0742 780370
Price: £25.95

SMARTYPAINTS

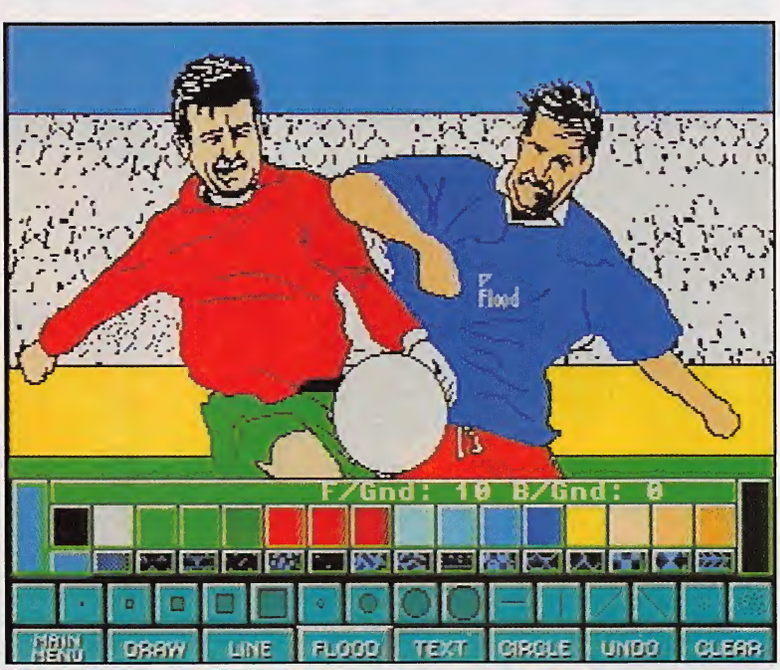
SmartyPaints is a new package for parents and kids who are serious about computer graphics. It shares file formats with other Amiga paint software and uses standard fonts. It doesn't need drop-down menus and the user can see at a glance which functions are switched on.

The program can be custom-configured with text or icon buttons and has three options from the Smart menu system. These are: a workscreen/ Menuscreen format with the Smart Menu deselected; a DPaint like format with the Smart menu overlayed by the Smart menu; or a combination of both with the Smart menu used as a supplement to the main menu.

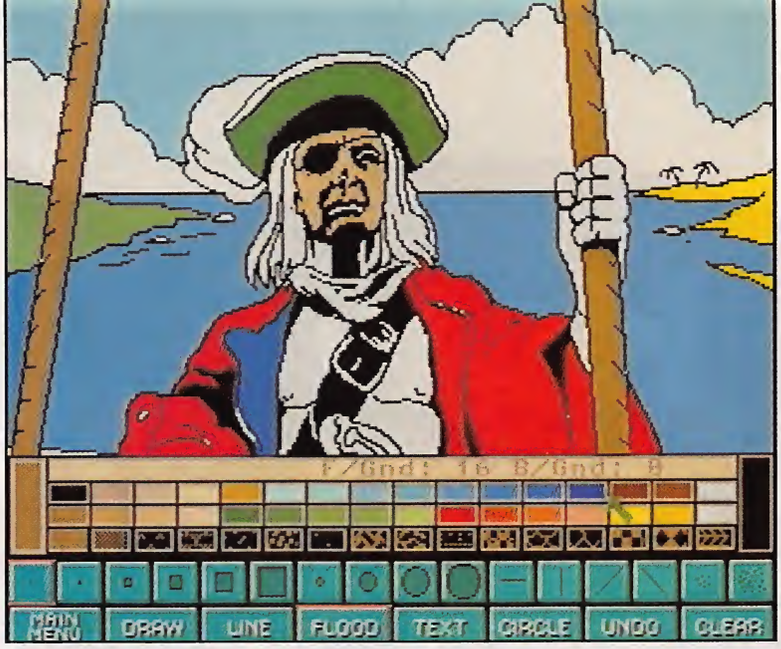
The configuration can be saved to disk. When the program is reloaded, it is returned to the same state as before, which enables individual disks to be made for different family members. Any work you produce with the SmartyPaints can be printed on any standard printer.

Although SmartyPaints has been designed for use by children, some adult help may be needed to get going particularly to set it up for individual use.

Children are unlikely to want to read the manual, and usually try out



Make your favourite football strip come to life.



Now where did I leave that treasure, me hearties?

new programs by trial and error! This is not recommended for this program, as many aspects could be missed. For example, we found that with 23 functions which can be custom chosen for inclusion in the Smart menu, it can be stacked up with often-used buttons or loaded and locked with the limited range of tools needed for a small child's use. This we found was helpful to start with when trying out the program, to save confusion!

The main menu has a plethora of possibilities and depending how familiar the user is with paint programs, the 'language' may be confusing. Draw XOR for example is an intricate instruction when colours can be made to combine with those already on screen in a different way to normal.

The 16 predefined pattern blocks are arranged with one solid colour for the first pattern block and the rest have a pattern made from colour one with a background from colour 2.

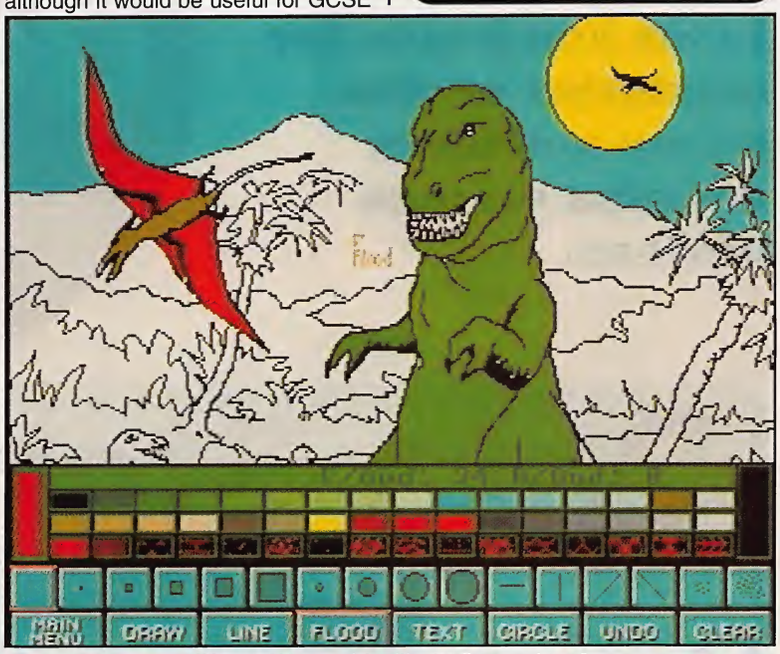
I would not recommend you use the program initially without giving yourself time to explore the fonts, drawing functions, modes, brush functions and text. This would ideally be when the children are not around as it does need a serious amount of concentration. I was fortunate in having one of those rare occasions when all my progeny were out, and it is unlikely that I would let them loose on it before I'd had a few tries myself. No doubt, once they got the hang of the rudiments they were telling me what to do, but in the meantime I was able enjoy the luxury of being one Amiga-step ahead! It didn't last long.

Comparing it to other paint programs we have tried, this is undoubtedly the most complicated but the rewards come with the more advanced outputs.

For children of 5 - 13 years, although it would be useful for GCSE project work too. A preview version is available from Chroma for you to try before you buy. The program runs on any 1Mb Amiga.

RATINGS
7/10
INFO

Contact:
Chroma Computer Images
153 Holt Road, Fakenham, Norfolk
NR21 8JF. Tel: 0328 862693
Price: £28.50



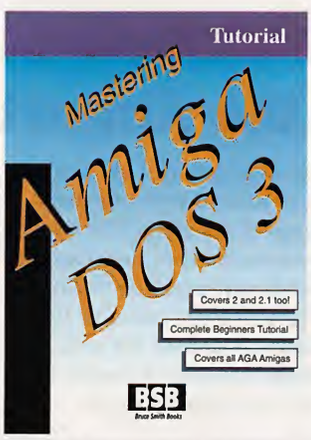
What would be complete without a dinosaur picture?

Mastering AmigaDOS 3

Volume One

Reviewed by Paul Overaa

The facilities provided by AmigaDOS have grown considerably over the last few releases and it is now a substantial subject in its own right. Because of this just learning how to use the AmigaDOS operating system can be a rather daunting prospect for the new Amiga user and this is where this type of tutorial book comes into its own. In fact this latest edition results in a two volume set that contains well over eight hundred pages of reference and tutorial AmigaDOS material.



Mastering Amigados 3 is now available.

The aim of this particular volume is, quite simply, to provide tutorials that get you into the world of up-to-date AmigaDOS usage as quickly as possible. The overall format of this new volume is similar to previous versions and there is plenty of common ground.

Nevertheless, along with the general updating that has occurred a fair amount of new material has been provided. There are, for example, some useful notes on Intellifont (Fountain) outline fonts in this new edition along with expanded overviews of the general structures of AmigaDOS commands and command parsing strategies.

You'll also find additional notes on the management of files and directories, use of file attribute flags and so on. Script files, as might be expected, have been dealt with in a fair amount of detail and there are good accounts of the purposes of the various startup sequences (including, of course, the new AmigaDOS 3 start up script). As before help is provided for users who wish to modify such scripts.

This volume then concentrates on the general usage issues that underpin the AmigaDOS operating system as a whole. Although there are a number of chapters which tackle more advanced uses of specific AmigaDOS commands the main details of the full AmigaDOS command set are, as with the previous editions of these books, left for the second volume in this series. The new edition is well written and informative. Most import-antly though it is easy to read so it will be particularly useful to anyone who finds AmigaDOS an intimidating subject. ***AUI***

INFO

Title:	Mastering AmigaDOS 3 Volume One (Tutorial)
Authors:	Mark Smiddy and Bruce Smith
Published by:	BSB Books Ltd.
ISBN:	1-873308-20-5
Price:	£21.95
Available from:	BSB Books Ltd.
	Freepost 242, PO Box 382, St Albans, Herts AL2 3BR
Telephone:	0923-894355.

From floppy to hard and from hard to magneto-optical. Michael Rumbelow takes you inside the mysteries of disk drives and other amazing storage devices.

How does that work?

Data Storage

Since the very first ever 'home' computer, the Altair DIY electronic computer kit came out in 1975 with its punched ticker-tape data storage, home computer users have used a gamut of different devices for storing their precious digital data.

These have ranged from the C64-style dreaded audio-cassette recorders to floptical disks and more recently video tape recorders and CD drives. With the latest multimedia software incorporating megabyte-guzzling video and sound clips, data storage capacity is at a premium: fortunately faster and bigger devices are constantly being created, typically doubling in capacity each twelve months with the cost per megabyte roughly halving every year. So what exactly are the different devices on offer and how do they work? We opened up some of the data storage technology currently on the market to let you see.

Floppy Disks

If computers consume digital data then the floppy disk is a snack, you can survive on them but you'll need a lot to keep you going. Computers are getting greedier too; in the old days when word-processing and number storing were the main applications of a computer an 880K disk seemed like a hefty amount of space, but now with the kind of graphics and sound incorporated in the latest games, floppies often seem inadequately small; it's not uncommon for a game to take up 10 disks and a large application like Windows for the PC needs over 20.

The construction of the 3 1/2 inch floppy disk, standard on the Amiga, is based on a thin 'cookie' of flexible, non-woven polyester, often mylar, coated in an epoxy resin which contains magnetic material. This is encased in a rigid plastic cover with a sliding metal hatch that protects the disk from damage while it's not in a drive.

A disk normally has eighty concentric circular tracks on both sides which are each split into eleven sectors which hold 512 bytes each, making a total of 2 sides x 80 tracks x 11 sectors x 512 bytes = 880 Kbytes, though some newer drives can fit more on.

Information is recorded onto the disk by means of a small electro-magnet in the read/write head of the drive which magnetises a given point on the track in a northerly or southerly direction representing a 0 or a 1. Though, in fact, the track is normally coded with extra 0s and 1s as well which tell the read/write head where it is.

The floppy disk drive has two read/write heads, one for each side of the disk, which are both mounted on the same transport mechanism. On each side of the r/w heads are smaller erase heads which erase the edges of the information as it is put down on the track, trimming it so that it's less likely to impinge on neighbouring track information. When it is reading or writing a track the disk spins past the heads at a rate of over 300 revolutions per second, ten times as fast as an LP on a record-player.

GOING FLOPTICAL

Floptical drives are probably the ultimate development of the floppy disk drive: they use lasers to achieve super-precise tracking on a 3 1/2 inch floppy disk and so can squeeze on over 20Mb. Specially constructed floppy disks are needed to support this density of information recording though, costing £10 or £15 each, but the drive can read standard floppy disks as well.

Floppies at the Airport

Taking floppy disks through airport security, do you risk them in the x-ray machine, or should you take them through by hand? In fact, floppy disks should be fine in the x-ray machine, unlike photographic film, because their magnetic coating is not significantly sensitive to x-rays, indeed they should be extra safe there because the machine is magnetically shielded. Floppies are sensitive to the magnetic field in the metal detector however and could be damaged if you take them through.

Floppies are cheap, robust and easy to use, but for modern applications they're often just too small. Floptical disk drives stretch the format to a current norm of around 20Mb, but even this seems measly compared to the 600Mb of a CD or the gigabytes plus of big hard drive or magneto-optical cartridge.

Hard Disks

Hard disks were the forerunners of floppies, though now most Amiga users start off with floppies and graduate up to a hard drive. The construction of the hard disk is similar to a floppy except for the rigidity of the disk made from aluminium and the way that usually several disks are stacked on the same spindle in one drive, with a read/write head for each side of each 'platter'. The hard disks also rotate at about ten times the speed of a floppy - over 3500 rpm - and the information is much more closely packed which is why hard disks are so much faster than a floppy and also why the drives are much more sensitive to disturbance.

Inside a hard drive exposing the top platter with its head positioned fractions of a millimeter above it

A floptical drive – 21Mb on a floppy.

This is the equivalent of a jumbo jet flying along at the speed of sound an inch off the ground.

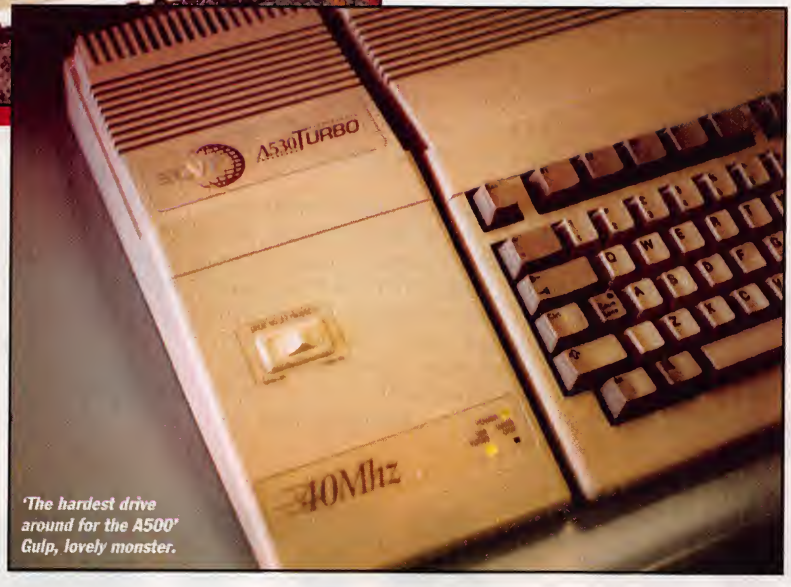
The gap between the head and the surface of the hard disk, for instance, can be as little as 1/10 of a millionth of an inch. Scaled up, this is the equivalent of a jumbo jet flying along at the speed of sound an inch off the ground.

Hard disk drive capacities range from about 20Mb up to several gigabytes and are a proven, quick and reasonably reliable type of storage device. They are not always very robust though and can cause great distress when they crash. They're also not very portable, though removable hard disk cartridges go some way to solving this problem.

Removable Hard Disks

There are two main kinds of removable hard disk systems: the SyQuest drive and the Bernoulli drive. The SyQuest system uses a rigid hard disk like a normal hard disk drive, only encased in a special removable cartridge. Cartridges come in 5 1/4 or 3 1/2 inch formats and can store upto several hundred megabytes. The cartridges are as delicate as hard disks while in a drive, but once removed can be easily transported or sent by post.

Bernoulli drives go some way towards a more robust hard disk cartridge system by taking advantage of the so-called Bernoulli effect. Bernoulli 'hard' disks are actually flexible. As the disk spins the air flowing past the read/write head creates an area of low-pressure under the head which sucks the part of the disk below it very close.



'The hardest drive around for the A500' Gulp, lovely monster.

If the drive is jolted the air-flow is interrupted and the disk automatically immediately falls away from the read/write head.

FACTOID

SCSI

Most Amiga drives interface with the Amiga via a connection to the computer bus called an IDE (Integrated Drive Electronics) interface. In recent years another interface, SCSI (Small Computer Systems Interface) has become more popular.

SCSI is a standard for connecting not just drives but other peripherals like scanners and printers, so is more comprehensive than the IDE interface, as well as being considerably faster. It's proving to be particularly suitable for creating multimedia applications which often require quick access to several different peripheral devices.

The SCSI interface was originally developed about ten years ago by Shugart Associates in America who wanted to create an interface that could interface with everything. The original system was called SASI (Shugart Associates Systems Interface), but to get it adopted as a national standard they had to submit it to the American National Standards Institute who insisted on some minor refinements and changes - including one that they should change the name of the interface to SCSI.

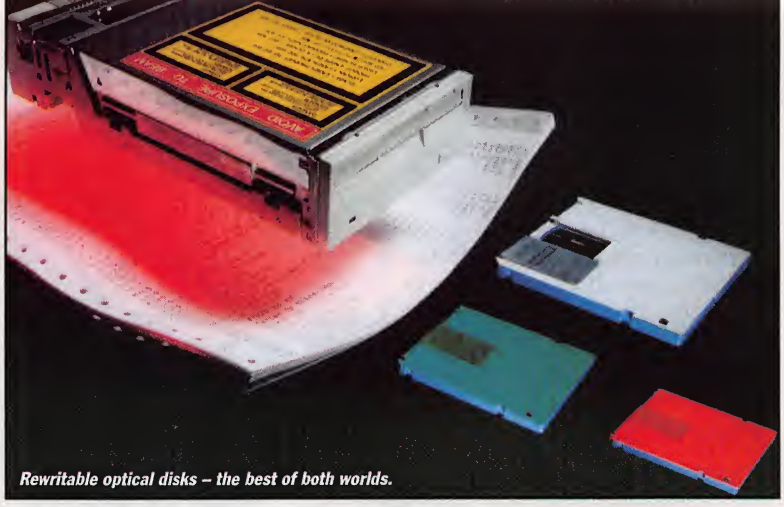
How does that work?

MAGNE

ATTRACT

The Bernoulli Effect

The mathematician Daniel Bernoulli was a Swiss who observed and documented the so-called Bernoulli Effect over two centuries ago. He noticed that when air or water flow rapidly over an object, they exert less pressure on it as they pass by. So, for instance, a ping-pong ball will stay bobbling in mid-air on an upwards jet of air (or water), seemingly defying gravity. The slower moving air on the outskirts of the jet exerts more pressure on the ball than the fast moving air in the centre, so the ball tends to stay on top of the central fast moving stream. Likewise the topside of a plane's wing is curved so air rushes past it faster than the underside, so that the pressure under the wing is more than the pressure on top and the wing is forced upwards.



Rewritable optical disks – the best of both worlds.

If the drive is jolted the air-flow is interrupted and the disk automatically immediately falls away from the read/write head. This means that the likelihood of damage to either disk or head is greatly reduced and Bernoulli drives are consequently considered more robust and efficient than SyQuest's, though more expensive. A single Bernoulli cartridge typically holds 150Mb of data.

Despite super-fast spooling mechanisms, it took several seconds or even minutes to locate pieces of information.

Optical Drives

There are three kinds of optical disk devices available at the moment: magneto-optical drives, CD drives and WORM CD drives. Magneto-optical drives rely on a special coating on the disk whose magnetic polarisation can be detected and altered when required with a laser in the drive. The double-sided magneto-optical disks are encased in removable cartridges which can hold upto over a gigabyte of data.

Compact Disks

Compact discs are usually made from plastic, often poly-carbonate (the stuff from which they make bullet-proof glass), coated in aluminium with a thin layer of transparent protective lacquer on top. Binary information is stored on the aluminium as microscopic indented 'pits' for noughts or raised 'lands' for ones: over 2 billion pits and lands are contained on one CD arranged in a dense spiral which, if stretched out, would be over 3 miles long.

CDs are read by a laser, usually a gallium-arsenide one because its low wavelength means it can be focussed very accurately. It can be up to several millimetres away from the

CDs are actually created or mastered by taking information from a magnetic tape or disk and using a high-quality laser to photo-engrave a 'clean' disc.

The first electro-magnetic storage device was the wire-recorder which was used to record sound. A steel wire moved from one spool to another past an electro-magnet: sound into a microphone caused a current in the electro-magnet which magnetised the wire. When played back the same process happened in reverse: the magnetised wire caused a current to flow through the electro-magnet which could be put through an amplifier and heard as sound.

These wire-recorders were developed in Hitler's Germany during the 30's and 40's, but were unreliable since the wire was fragile and frequently snapped. Then the idea occurred to the engineers of using paper tape coated with a powder containing iron-oxide instead of wire and with this idea they built the first tape-recorder.

Eventually plastic tape was substituted for paper and the iron oxide powder was replaced with sophisticated nickel or cobalt based magnetic compounds. In the 60's Philips produced the original now-familiar audio-cassette in its own novel self-contained plastic container which was much more robust and cheaper than previous reel-to-reel spools and opened up sound recording to the general public. Early electronic computers used huge reel-to-reel spools of magnetic tape to record digital information. Despite super-fast spooling mechanisms, it took several seconds or even minutes to locate pieces of information. To speed up access times drum-storage was developed which stored information on a spinning magnetically coated drum, read and written to by a head that could move up and down on the drum.

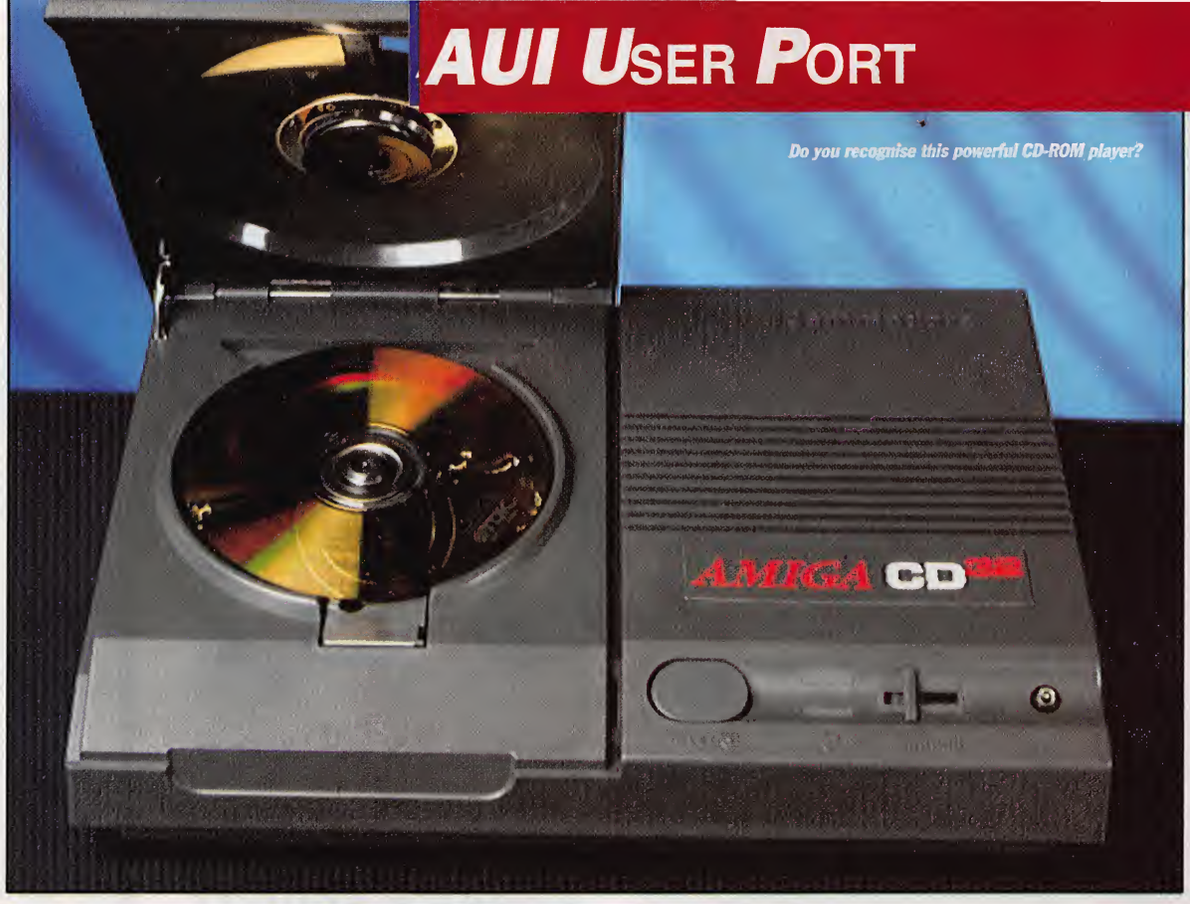
To speed access still further often several heads would be connected to the same drum. The area covered by each drum was known as a cylinder, a term that persists to describe the equivalent area on a disk.

Huge fifteen-inch wide multiple hard disks were the next development in the quest for bigger and faster memory storage, mounted on a central spindle. These, albeit on a smaller scale, are principally the same as the modern hard disk drive.

The removable hard-disk was introduced in the sixties to aid portability and the 5 1/4 inch floppy disk followed in the late seventies, aided by IBM's decision to incorporate a 5 1/4 inch floppy drive in their PC.

In the early eighties the more robust 3 1/2 inch floppy in its protective plastic case started to take over and in the late eighties became the standard floppy disk format.

In the last few years the hard disk has been devel-



Do you recognise this powerful CD-ROM player?

surface of the disk. The laser beam is focussed by a lens to a tiny point a millionth of a millimetre wide, near the wavelength of the light itself. The beam reflects off the surface of the aluminium and back up into a light-sensor: lands reflect more light back into the light-sensor than pits so the electric signal from the light-sensor represents the 0s and 1s encoded on the surface of the CD.

CDs are actually created or mastered by taking information from a magnetic tape or disk and using a high-quality laser to photo-engrave a 'clean' disc. This disk is then developed a bit like a photograph and the result is the master disc. This is used to create delicate glass mouldings from which copies of the master CD can be mass-produced.

A WORM or 'Write-Once-Read-Many times' CD drive is a cut-down version of a CD-master cutter, which can now be bought for under £4000. It produces a characteristic one-off gold-coloured disc which can then be used as a normal CD-ROM.

WORMs are useful for recording information that needs to be stored only once or twice, when archiving data, for instance, or for making test-pressings, but it takes up to several hours to produce one gold disc so for mass-production you really have to use professional pressing plant machinery which then produce silver coloured discs.

Non-disk Storage

There are several data storage devices which do not use a disk format, from tape-streamers to flash-cards. Tape-based devices work in a similar way to a standard audio tape-recorders, only recording information as binary north or south magnetic charges rather than analogue, continuously varying magnetisation. Flashcards are a form of permanent RAM, that is RAM chips which maintain their internal binary electric charges without a power supply. Flashcards of several megabytes are likely to become commercially available for the Amiga 1200 and 600 in PCMCIA format in the near future.

The Future

With the development of multimedia on a roll at the moment, the demand for bigger and faster data storage for broadcast quality video and super-high quality sound looks likely to grow. In the longer term though, that is more than a few years, as communications networks improve it seems likely that information might not need always to be stored in the same place where it is being used. Already many people prefer to phone directory enquiries rather than look a number up in the phone book and the operators themselves are often working from home accessing information from a central store via a high-speed digital ISDN phone line.

With the right software it is already possible to search the whole of the world-wide Internet for a given file and access it within minutes. If the trend towards easier and faster remote access goes on you might only need your own permanent data storage devices for those really personal bits of information and video-clips (you know, those ones), the rest of the time you might just be able to plug into and use public domain data stores over the phone or cable line.

If data storage capacity goes on doubling every year and halving its price in the same period, logically, we should soon have virtually unlimited capacity at almost no cost. Amazing things have happened in computing but miracles of that kind are not quite so likely to occur, even in data storage. ***AUI***

'Mastering a CD in a dust-free lab'

TIC

oped further incorporating laser-aided tracking - the floptical disk - and a hybrid of magnetic and optical disk, the magneto-optical disk has also been produced. With the current focus of development on light as a communications medium rather than electricity though, optical devices promise more for the future than magnetic technology.

ION

SPEAK OUT

Have to re-wire your hi-fi every time you use your Amiga's sound? Got a silent monitor? Gary Fenton has the solution.

Getting good sound out from your Amiga is just as important as remembering to buy *AUI* every month. I've got my Amiga linked up to my hi-fi using its AUX input, but some people have the hassle of swapping leads around when they load a program which really needs to heard, like a game for instance.

An ideal solution is to buy a dedicated pair of speakers and an amplifier just for the Amiga. This could be an expensive solution but the Multimedia speakers from Golden Image are the cheapest stereo speakers I've come across. Because they have a built-in amplifier and come with a mains power supply you're ready to rock and roll as soon as you've unpacked them. Well, almost.

The Amiga, like most sensible audio equipment, has two phono outputs for the sound but the cable supplied with the speakers has a mini jack (Walkman type) plug at one end. Bah! I can tell this package was put together for PCs which use tacky mini jack connecters for sound! So it's down to Tandys to spend a couple of quid on the right cable.

On the good side, each speaker is only 18cm tall so they hardly take up too much valuable space. What about the sound quality? Well, you know if you were to turn off the bass on the average hi-fi and put large fluffy pillows in front of each speaker... that's what these speakers sound like! What do you expect for £30?

In fairness, the quality is just slightly better than that of the sound from a 1084/5 monitor, but it doesn't have the full range of which even my 14" Sony TV is capable. However, if you need a pair of compact standalone stereo speakers which cost no more than a computer game, then these speakers fit the bill perfectly. The Ratings sum it up quite nicely. *AUI*

I'll never work out how to use the controls!

Hmm, not bad looking for the price.

RATINGS

Golden Image Stereo Speakers

FEATURES	60%
PERFORMANCE	53%
LOOKS	82%
VALUE	90%

Overall Rating 70%

INFO

Price: £29.95
Contact:
Golden Image
Unit 12A
Millmead Business Centre
Millmead Road
London
N17 9QU
Tel: 081 365 1102

RICOH LP1200 PCL5 LASER PRINTER

400 DPI 2 Mb RAM 6 PPM

A4 TEXT/A5 GRAPHICS @ 400dpi • A4 GRAPHICS @ 300dpi. A 2Mb RAM UPGRADE IS REQUIRED TO PRINT A FULL A4 PAGE OF GRAPHICS AT 400dpi

HP LASERJET III™ COMPATIBLE • FLASH ROM UPGRADEABLE!

Ricoh, have used their expertise to produce a 'first' in laser printers, the LP1200 with FLASH ROM. HP LaserJet III™ compatible, the LP1200 employs industry proven laser technology which, unlike LED printers, uses a laser light source to produce the most accurate and intense printed images at a range of print resolutions up to 400dpi. A fast efficient processor and engine, plus a straight paper path design allows printing at a full 6 pages per minute. The 2Mb RAM version prints a full A4 page of text or graphics at 300dpi. Using standard resident fonts and the alternate controller firmware supplied, it can also print an A4 page of text or A5 page of graphics at 400dpi. Using the Windows driver supplied, it can print an A4 page of text at 400dpi from Windows 3.1, or using the Amiga driver, an A4 page of text at 400dpi.

PC MAGAZINE UK EDITOR'S CHOICE OCTOBER '92

FREE!
WINDOWS 3.1 DRIVER
SUPPORTS 300 & 400DPI
OR
AMIGA DRIVER
SUPPORTS 300 & 400DPI
SPECIFY AT TIME OF PURCHASE

2Mb RAM

SHOWN WITH UNIVERSAL FEEDER TOP TRAY (OPTIONAL EXTRA)

The 4Mb RAM version can print a full A4 page of graphics at 400 dpi and makes full use of the LP1200's 400 dpi printing capabilities, such as using Microsoft Windows fonts. Unique additional standard features include FLASH ROM 'future proof' technology and LAYOUT - a powerful document description language. The LP1200's unique internal FLASH ROM, which holds the printer controller firmware, can easily be updated as new developments in technology occur. This protects the investment you make in buying a Ricoh LP1200. Other manufacturers would require you to buy a new printer! Internal FLASH ROM and industry standard FLASH ROM PCMCIA cards can also be used to permanently store fonts, macros, graphics and extra emulations. Again, unlike the competition, the LP1200 includes LAYOUT, a powerful and intuitive document description language as standard. This offers unique opportunities to develop custom made printing systems. Forms and document templates can be designed complete with logos and stored electronically in the LP1200's FLASH ROM, alleviating the need for pre-printed forms!

The LP1200 comes with a 100 sheet A4 paper tray as standard. An optional universal feeder automatically feeds up to 150 sheets of paper (up to 169gsm), 15 envelopes, transparencies and labels.

CONSUMABLES + ACCESSORIES

PRODUCT CODE	PRODUCT DESCRIPTION	PRICE EXC VAT
CAB 7500	Cable for PC/ST/Amiga	£8.47
KIT 5200	Laser Starter Kit inc Cable	£12.50
LAA 5238	Universal Feeder (2nd Tray)	£85.00
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LAA 5210	Developer/Toner Cartridge	£65.00
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Amiga driver @ 400dpi available	YES	-	-	-	-
Print speed	6ppm	6ppm	4ppm	4ppm	6ppm
Straight paper path for all media	YES	-	-	-	-
PCL 5 printer command language	YES	YES	YES	YES	-
Resolution improvement/enhancement	YES	YES	YES	YES	-
Standard RAM	2Mb	1Mb	1Mb	1Mb	0.5Mb
Full A4 page graphics @ 300dpi with standard RAM	YES	YES	YES	-	-
Full A4 page text @ 400dpi with standard RAM	YES	-	-	-	-
Warm up time	<45 secs	<90 secs	<34 secs	<15 secs	<35 secs
First page of text output	<15 secs	<20 secs	<34 secs	<34 secs	<19 secs
Layout document description language included	YES	-	-	-	-
Flash ROM	YES	-	-	-	-
Flash ROM upgradeable firmware	YES	-	-	-	-
PCMCIA card slot	YES	-	-	-	-
Scaleable resident fonts - in HP LJ III emulation	8	13	26	8	-
Resident bit-mapped fonts	14	18	-	7	7
AGFA Intellifont scaleable font technology	YES	-	YES	YES	-
HP LaserJet III emulation included	YES	YES	YES	YES	-
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Standard tray capacity	100	150	100	100	150
Cost per copy**	1.65p	1.80p	2.40p	2.10p	1.95p
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Printing - noise level	<48dB(A)	<50dB(A)	<48dB(A)	<46dB(A)	<45dB
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The Bit Pla

Michael Rumbelow explains how the mysterious bit plays such an all-important role in the Amiga.

Computer makers like to boast about the number of bits their latest machines have, even to the point where it is now common to poke fun at 8-bit machines and laugh as you pull out your 64-bit monster and plonk it on the table. ("That should keep you happy, dear.")

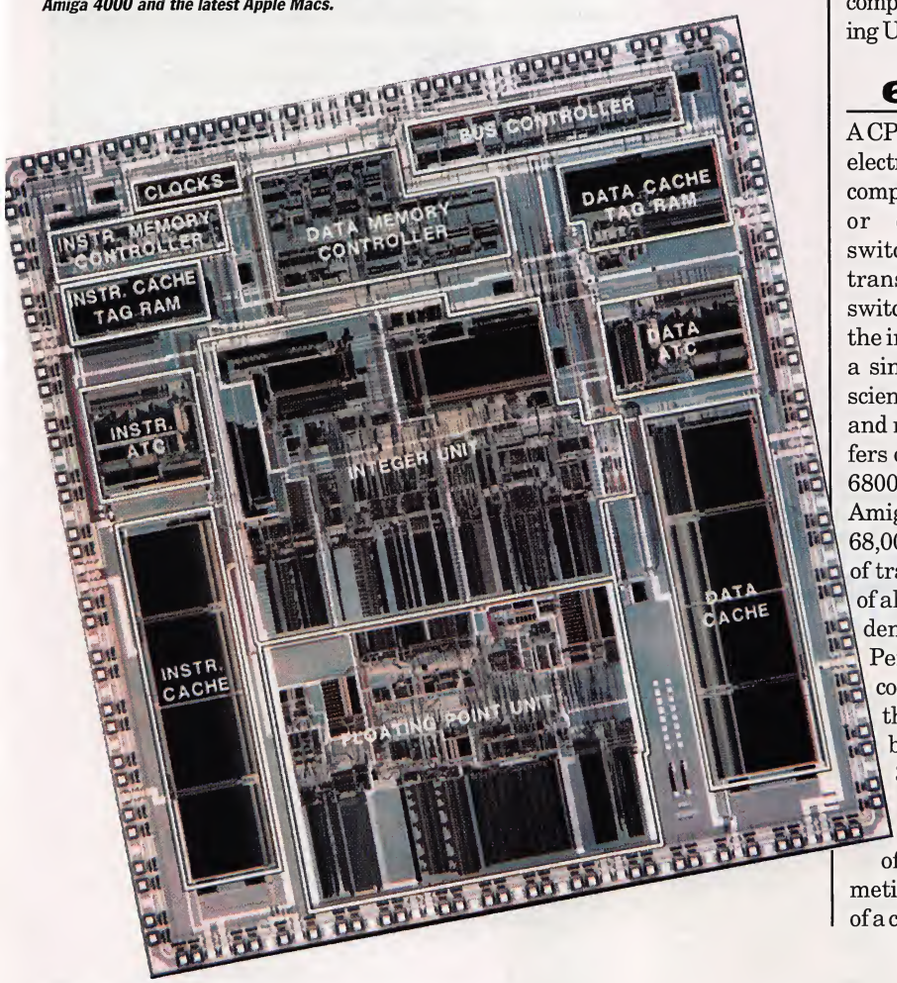
Non-boffin observers often frankly don't follow what all this fuss is about; a 32-bit machine sounds as if it should be twice as good as 16-bit, but is it? What are these bits for? And what does it mean when people talk about 24-bit images and 16-bit sound?

To understand the nature of bits it is first necessary to allow your mind to chew through and sever its tether with everyday normal reality and fly through a hole in the torn fabric of space-time consciousness into the mysterious bleeping universe of binary digits and integrated electronic circuits.

In a nutshell, computer chips deal strictly in binary numbers, i.e. zeros and ones, which they understand as tiny electronic currents along their pins, (the wire 'legs' that come out of the sides of the futuristic black insect-like oblong chips which cling to the circuit-board and connect the chips to each other and the rest of the computer). A current along a pin means '1', no current means '0'. A bit is just a binary digit (Binary digIT) i.e. a '0' or a '1'. So in the same way that 346, say, is a 3-digit decimal number, so '8-bit' refers to an eight-digit binary number like '00101110' or '11111101' for instance.

On an 8-bit chip, then, there should be at least eight pins to handle eight zeros and ones at a time. In practice, though, there are many more than 8 pins on an 8-bit chip, so what are all the other pins doing? Also some chips like the Amiga 500's are called 16/32 bit - what does this mean? To get to the bottom of this it helps to know a little about how the main chip in a computer, the CPU (Central Processing Unit), actually works.

Map of the Motorola 68040 chip found inside the Amiga 4000 and the latest Apple Macs.



68,000 Chips

A CPU chip is based on a network of electrical switches. In the olden days computers were built out of big valve or electro-mechanical relay switches, but then in 1947 the transistor (TRANsfer-reSISTOR) switch was invented, followed by the integrated circuit imprinted on a single chip and ever since then scientists have been squeezing more and more transistors onto tiny wafers of silicon. A chip in Motorola's 68000 range - at the heart of every Amiga - for instance, contains over 68,000 transistors and this network of transistors does the lion's share of all the Amiga's processing. Incidentally both Intel's new chip, the Pentium and the new Apple-IBM consortium PowerPC chip, which the next Amiga is rumoured to be going to use, contain nearly 3 million transistors each (gulp!).

So how can a collection of simple transistors do arithmetic and all the other operations of a computer? It is the way transistors are linked together that makes them powerful. One transistor is a just a switch, a hundred transistors linked together can perform some basic binary arithmetic and a network of a hundred thousand is a fully fledged processor chip.

The basic unit of the computer then is the transistor, which is just a simple electronically controlled switch which turns a current in an electric wire on or off. It functions very like a light switch for example, only instead of your finger there is another electric current turning the switch on or off. There is a main wire going in, a main wire going out and a third input wire which turns the transistor switch on or off.

Typically, a transistor lets current flow in the main electric wire until its switch is 'flicked' by a current along the input wire, which

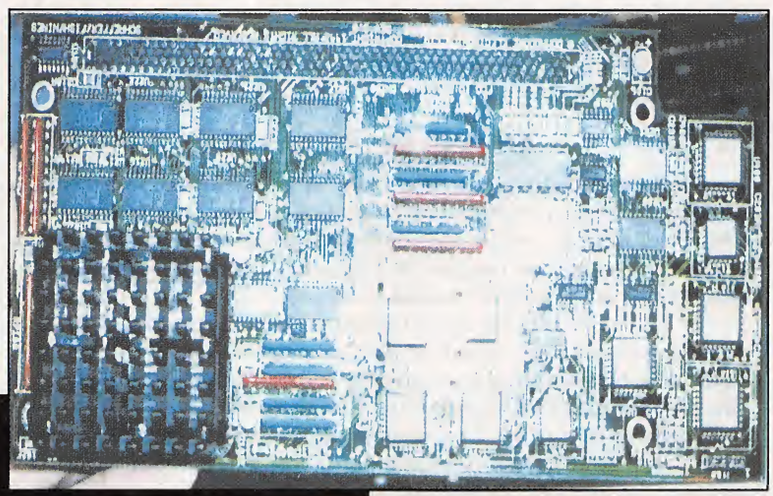
24-bi

Colour perception is one of the bodily functions most mysterious to scientists. For a start it is very hard to test objectively - you end up with the old chestnut of what you see as orange could look green to me, etc, etc. It could be that human colour perception has become more refined over time, or at least our description of it has, judging from the fact that ancient literature contains a smaller range of colours than we are used to. Ancient Roman poems, for instance, sometimes liken the colour of the sea to the colour of wine. (Was it really that dark?)

Even in one eye colour perception changes depending if you are looking straight at something or to the side of it, or what colours something is next to - a deep blue night sky looks even bluer with a

yer as Hero

then turns current in the main wire off. As soon as the input current to the transistor stops, current in the main wire is allowed to flow again. The magic of the computer comes from the idea that the current in the 'main wire' coming out of one transistor can become the 'input current' of another, or several others, so turning on one transistor can lead to other ones being turned off, which can lead to other ones being turned on and so on. In this way complex logical switching networks can be built up from transistors. It's possible, for instance, to make a network of transistors which has sixteen wires going in and sixteen coming out. Depending which wires current is applied to at one end and the design of the network, transistors throughout the network would turn on and off and a specific pattern of wires would end up carrying current at the other end. Binary numbers can be expressed as patterns of on or off electrical currents and it turns out that switching networks can perform certain kinds of basic operations on binary inputs. Taking the binary numbers '0101' and '0011' for instance, as an input pattern on eight input wires, a transistor switching network might be logically designed to produce the pattern of currents '00001000' as output. This is the equivalent of adding the two inputs together (the binary numbers for 5 and 3) and outputting the sum (8). These kinds of simple logical operations - adding, subtracting, comparing binary numbers and the like - are what computer chips are 'doing' all the time while a program is running.



The CPU board has lots of bits to handle lots of bits.

Instructions

The instructions which tell the chip which kind of operation to perform - 'add the next two numbers' or 'compare the next two numbers and output the higher one'- also come coded as binary numbers, which throw the right set of transistor switches in the chip so it will perform addition or whatever. A CPU chip normally understands several hundred different coded instructions, which might sound a lot but in fact most of them are very basic and very similar. There might be up to ten technically slightly different instructions for adding two binary values together, for instance, or several individual instructions to test the value of a single bit, each with a subtle technical nuance.

For some instructions, like 'add together the next two binary numbers and output the answer', the CPU needs somewhere to store the first number temporarily while it reads the second; these internal memory stores are called registers.

Addresses

The chip also has to retrieve any data it is going to process itself, from memory. It does this by sending the memory 'address' of the data it needs (another binary number) along with a 'read' signal to the RAM chips, which send back the right piece of data. Similarly to write to memory the chip sends the address and the data plus a 'write' signal to the RAM chips, which store the data.

So the chip needs an extra set of pins to handle all this address processing, since each piece of data input or output is associated with an address. The set of wires which carries all this data and address information between the central processing chip and the RAM chips, as well as to and from the serial ports and other devices, is called the bus.

The 'speed' of a chip then is determined by how fast it can read and write data to memory externally via the bus and how fast it can process data and address information internally. The external input and output and the internal chip processing have to be coordinated so that the transistors do the right operation on the right data at the right time.

The Amiga 1200's graphics chip can draw over a million dots per second.

Inside a chip thousands of transistors are switching on and off all the time and due to slight variations in manufacture the time taken for each transistor to switch isn't always exactly the same. Left to themselves the transistors would soon get out of sync not only with each other but with the bus, so they are kept in time by a 'system clock' which sends out a regular metronomic electronic signal like the slave-master's drum on ancient rowing boats.

Colour

yellow moon shining in it. So colour quality is hard to define scientifically.

Despite this, people have carried out several experiments on human guinea pigs in laboratories to test colour perception and have come up with the rather tenuous scientific 'fact' that on average the human eye can distinguish between 180 shades of colour.

With computers, colours are normally displayed on a monitor which builds a picture from pixels; the pixels themselves are made from three components - dots of the primary colours red, green and blue, which in different mixtures can imitate any colour in the spectrum.

So all the computer needs to do is send the monitor brightness values for each of the red, green and blue components of each pixel. To describe 180 shades of one of these colours takes an eight bit binary number (which can have up to 256 different values; with 7 bits you could only go up to 128). So for 180 shades of each of the colours Red, Green and Blue takes three times 8-bits, which makes 24-bits. This is why 24-bit images are sometimes described as 'true colour'.

24-bit images are only really true-ish colour; they may be able to describe over 180 shades of pure red, pure blue or pure green but for other colours like a green with a hint of blue for instance, which might be 4 parts green to every part blue, a computer will not be able to describe 180 shades using only 24-bits. Cinematic film, for example, which has colour quality estimated at 32-bit, is distinctly better.

For every clock cycle the chip n read or write one chunk of in- mation to the bus, the chip nsistors can all switch once and instruction can proceed by one ep. The faster the system clock cles then, the more times per cond the transistors switch, the ore chunks of data are read and itten to the bus and the more structions per second the chip n perform. So the system clock eed is one measure of the inter- l speed of a computer.

The Amiga

ut how does all this relate to the niga 500's Motorola 68000 chip? ne 68000 has 16 pins to handle ita and 24 pins to handle ad- esses, while its fifteen internal ores - its registers - eight for data id seven for addresses, can hold 2-bit numbers. This is why it is escribed as a 16/32 bit machine. It n only read and write 16-bits at a me externally, via a 16-bit bus, ut internally it can process infor- ation in 32-bit chunks. If it needs output a 32-bit piece of data it as to split it into two 16-bit blocks.

It's not what you've got so much as what you do with it and lacklustre software will look bad on any machine.

The 24-bit address capabil- y means that it can read and write ata to up to about 16.7 million (2 to ne power 24) different places in AM (if you ever have that much, ne A500 starts off with only 512K). his can be very useful for storing rge quantities of data like the rightnesses of all the pixels on a ery hi-res screen, for instance, or several minutes of sampled music - or these days, real live video.

Clock Speed

The system clock on the 68000 cycles at 8 MHz or 8 million times a second and the fastest instruction, to move information from one register to another, takes 4 clock cycles so in a second it can perform two million of these, while the slowest instruction, division of two 32-bit numbers, takes 170 clock cycles so it can only do 50,000 or so of these per second.

The Amiga 1200, on the other hand, uses the Motorola 68020 processor chip, or in Europe the 68EC020 chip. This chip has 32 pins to handle data, 24 pins to handle addresses, 32-bit internal registers, a 32-bit bus and a clock speed of 14MHz, so is significantly quicker than the 68000-based A500 in nearly all these departments. The A3000 and more particularly the 68040 4000s can run far faster, accelerating up to 59mHz.

To make things more complicated computers often include other processing chips to help out the main CPU, called co-processors or 'coppers' for short. These usually specialise in one particular job like number-crunching or graphics processing and so use fewer instructions than the CPU; for this reason they are, in special configuarations, sometimes deleniated as RISC (Reduced Instruction Set Chip) processors.

The chip and the floppy - one stores bits, one interprets them.

Digital Vibrations

Everything is vibrations, as they say, and music is no exception. Sound vibrations can be sensed as changes in air pressure which move the lightly suspended magnet in a microphone; this causes an 'electro-motive force' which makes electrons flow in a coil of wire proportionally to how fast and in which direction the magnet is moving. This electric current is measured every 1/44000th of a second and given a value between 0 and 65536, which is then converted into a sixteen-bit binary number (between 0000000000000000 and 1111111111111111). These values can be held in RAM, on floppy or hard disk, on a CD, or any other store of binary information.

Play It Again

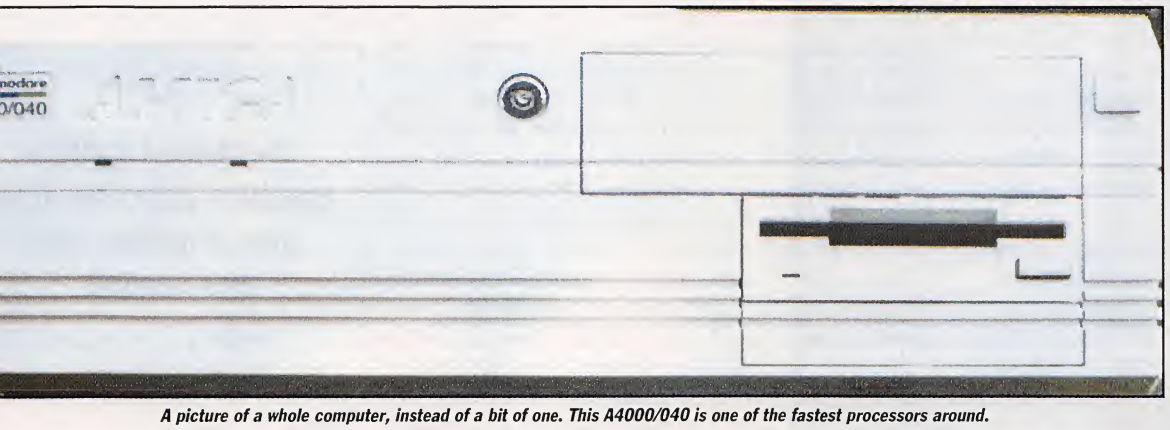
To play the music again the process is reversed: the binary numbers are converted every 1/44000th of a second into varying positive and negative electric current, which when boosted by an amplifier causes the magnet in a speaker to move which causes changes in air pressure - heard as sound.

The more bits are used to measure the flow of current, the more precisely the speed of the microphone magnet can be defined. 8-bit sampling can only describe 256 different speeds of the speaker magnet, whereas 16 bits can describe over 65000 and the difference can be heard as a much smoother and clearer sound. Above 16-bit most people don't notice much improvement as other factors like the quality of the amp, the speakers and the leads become more significant limitations on sound quality. Also multiples of 2 are convenient for processing chips, so 16 is the next logical step up from 8-bit.

Meet the Girls

The Amiga 1200 has three specialised chips - Alice, Lisa and Paula - which concentrate on video, graphics and sound processing, as well as an optional Motorola 68881/68882 Floating Point Unit chip (FPU) that specialises in number-crunching. These specialist coppers are not only very fast at what they do - the Amiga 1200's graphics chip can draw over a million dots per second - but they also relieve the CPU of a great deal of repetitive processing allowing it more time to deal with other instructions.

When manufacturers want to impress people with how powerful their machines are then they tend to use these criteria: the number of bits the CPU and the other specialist chips can handle, the clock speed and how much RAM the computer has on board. The number of bits that the bus can handle is also frequently quoted, as are the interface capabilities with other pieces of hardware, especially now that inter-machine communications and compatibility are becoming more important. As always though, it's not what you've got so much as what you do with it and lacklustre software will look bad on any machine, while on the other hand beautiful and powerful effects can sometimes be achieved very simply. Your eyes and ears will tell you more than the technical spec. *AUI*



A picture of a whole computer, instead of a bit of one. This A4000/040 is one of the fastest processors around.

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"In Cyberspace, no-one cares how loud you scream."

Alex Goldsmith takes you on a whistle-stop tour of the exploding Internet.

WELC TO THE VIL

If you haven't heard of the Internet yet, you might have spent the last six months in an isolation tank. Known to its denizens as the "Net", it's probably the closest thing so far to the Global Village, a world community of computer users swapping e-mail, graphics, programs and databases on every imaginable subject. Welcome to the mother of all bulletin boards or Cyberspace as the bandwaggon-jumping international press likes to call it.

Internet's growing at a staggering rate: some 20 million users in the world so far with a new network signing up every 10 minutes. The volume of digital traffic on some parts of the Net is growing at a mind-blowing 341,634 % per annum or more imaginably an estimated 1,000,000 more users a month.

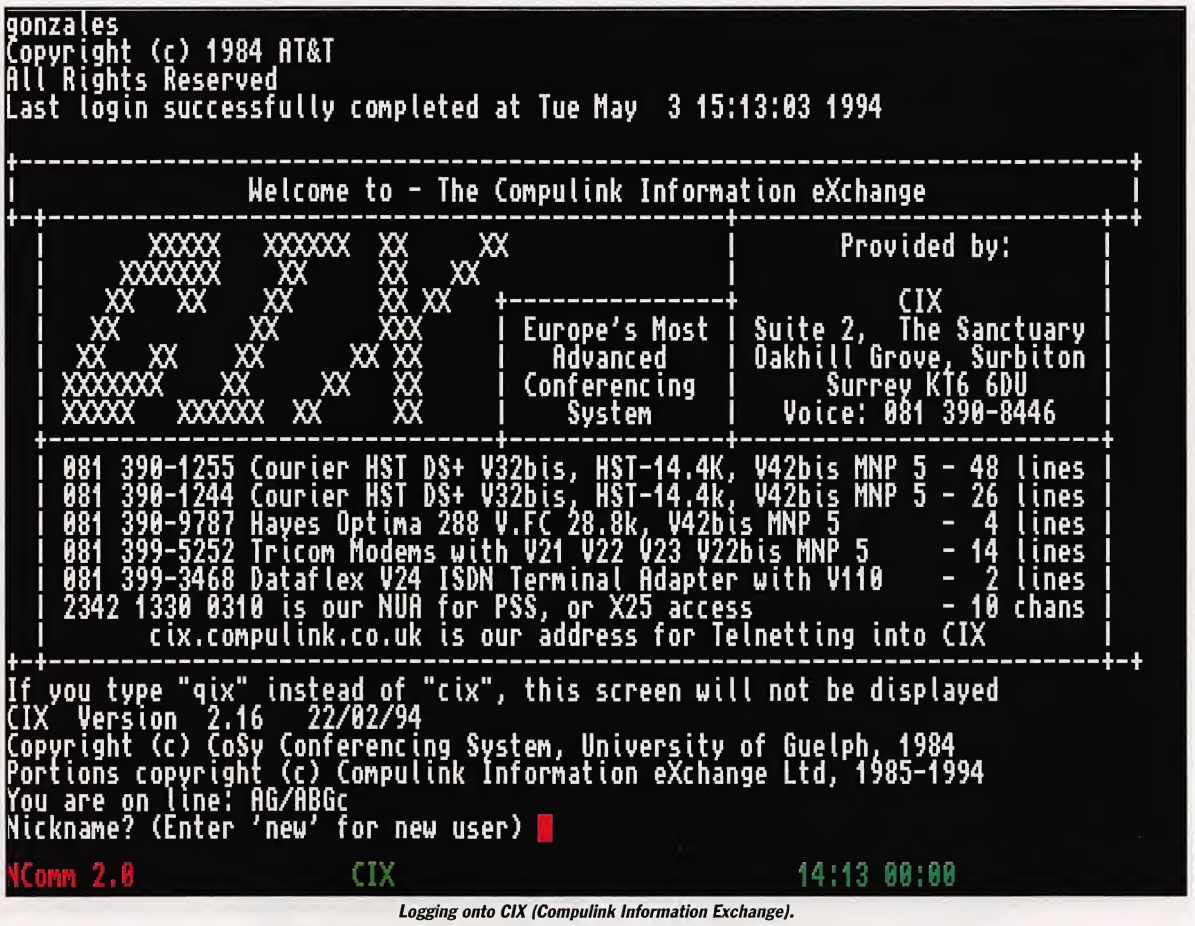
To get on, all you need is your computer, a modem and some comms software. You have to register with a service provider and many of these will also help you set up. The cost of registration can be as low as £12.50, with a flat rate monthly charge of £10. Some kind of reference material will help you get your bearings. "The Whole Internet User's Guide" by Ed Krol (O'Reilly and Associates; £18.50) is the bible, although "The Internet for Dummies" (IDG Books; £17.99) is also handy. Both books, and also "The Net Guide" by John Perry Barlow will help you bust through the jargon jungle into easy access cyberspace - sorry, the trendy language is catching.

Once you're online, you can dial into servers all over the globe and sample their wares, all for the cost of a local call. If you're not interested in what you find, a few keystrokes will have you surfing to another server to see what's going on.

The Internet sprang to life in the late 1960s, out of US military plans for a communications network that would survive a nuclear attack. Messages were divided into packets and sent along different routes before being reassembled for delivery to the recipient. Knock out one route and the messages will find another way of getting there. The whole idea was that a communications network with no centre could not be nuked away. It works damn well, too: Saddam Hussein used the technology in the Gulf War and allied bombing did very little to dent it.

Pretty soon, the universities were linking in to share programming access to supercomputers. As more and more institutions in more and more countries joined up, academics started using the net to swap programs, publish their research and - hey, while they're online - gossip, tell jokes, catch up with friends and generally chew the fat.

And when they left their colleges and institutions, those same academics and students began to demand private access to the Net. They missed their virtual communities! Today, with over 20 million people hooked up, the Net spans the whole globe with the northernmost link in Thule, Greenland and the southernmost link in the Amundsen-Scott base at the South Pole. In fact, e-mail is the only public way to get a message to the South Pole. Hello penguins, anybody there?



Logging onto CIX (Compulink Information Exchange).

Variety

So, what's available? Depending on your service provider (not all of them offer a full Internet connection), you get e-mail, access to files, information, software or you can join in discussion groups on a truly staggering variety of subjects.

Even the most basic connection offers an e-mail service, which means you can send messages instantly to practically anyone with an e-mail address, including the US White House. Yes, President Bill Clinton is waiting to hear from you! Beyond that there's a mass of academic and public service information, available through a variety of methods. One of the best ways of sampling this is through "Gopher" (as in "Go fer it"), a type of software that runs on many of the computer servers that you can access through the Net. Once you've dialled into a server which runs Gopher, the latter presents you with a menu of options which can run into several screenfulls.

Each item will either take you to some hard information of your choice - some text, a database, a library catalogue - or to another gopher server in some other part of the world, offering yet another dazzling array of choices.

COME GLOBAL AGE

You can consult the CIA World Fact Book, search the Bible or the complete works of Shakespeare. If it sounds bewildering, don't worry - you can always backtrack your way out of the maze and start again.

Most fun are the Gophers dedicated to cyberculture in its myriad forms. Check out the WELL's Gopher. The WELL (it stands for Whole Earth 'Lectronic Link) is probably one of the best known virtual communities: a bulletin board in Sausalito, California with some 8,000 subscribers. The WELL Gopher is their contribution to the Net and through it you can access articles from cult magazines such as Wired and Mondo 2000, as well as the writings of cybergurus like Bruce Sterling, William Gibson and Howard Rheingold. If you like what you see but can't be bothered to read it all online, you can mail yourself the text and download at your leisure.

Alternatively, there's FTP (File Transfer Protocol) which allows you to download text or software from dedicated servers. This is less user-friendly than Gopher but there's so much information that it's worth mastering. Whole books are available through FTP.

One of the major problems that Internet is causing is that of control. We live in what the the Netters call INL - In Real Life. And IRL we are controlled in all sorts of ways from being compelled, sensibly, to agree on which side of the road to drive to paying taxes and behaving, at least in public, according to the conventional norms of the society in which we live. However, the Internet world, Cyberspace, is proving virtually, hmm, perhaps that's the

Coping in Cyberspace. Follow the rules and you won't get flamed

Cyberspace is the virtual world created by the network and its users. But just because it isn't tangible, doesn't mean it isn't real. If you're an innocent and you don't follow the Netiquette, you can get into very heavy waters.

Most Net users report a mental transformation when they log on. It's due to the strange combination of intimacy and distance that results from interacting with others through the medium of a computer. The anonymity; the absence of physical cues; the emotional investment of committing your thoughts to text; all of these combine to make the experience unique. Many people take the liberating step of adopting a new virtual identity. As they say, "In Cyberspace, no one cares how loud you scream."

And that's where the dangers lie. People get carried away. They forget it's more difficult to convey humour or irony in written text. "Flaming" is a kind of virtual tongue-lashing that can affect anyone who says the wrong thing at the wrong time. People can be hounded out of cyberspace by flamers. If you've invested emotional capital in your virtual identity, the experience can be traumatic.

Hence, the proliferation of "emoticons" and acronyms to convey meanings that would get lost or misunderstood in plain text. The most common are:-) to denote a joke, ;-) to denote irony, and :-(for displeasure. (If you don't see why, try turning the page by 90 degrees). Others include ROFL (Rolls On Floor Laughing) and - a good one for flamers, this - FOAD (Fuck Off And Die). Use capitals sparingly, however; it's like screaming. It may not be true, as is claimed, "In Cyberspace, no one cares how loud you scream."

Another tip is to look up the FAQs file (Frequently Asked Questions) when you first log in to a discussion. That way you'll avoid the virtual equivalent of blundering into a room full of people and asking a series of inane questions.

Remember also that the Net is essentially a non-commercial space (although quite how long that will last, nobody knows). Avoid using it for blatantly commercial purposes. Try to live up to the anarchic, tolerant, freedom-fighting spirit of the Net. Though a U.S. lawyer who recently, and against all Net practice put out an advertisement, received 35,000 replies before he was "flamed". The process included a "mail bomb" - 8 million characters or so of absolute gibberish designed to jam up his whole system.

So, follow Netiquette, walk before you run, master the jargon and you'll soon find yourself shooting the breeze like a veteran internaut. Happy Netsurfing!

Attached to the Univercity of Virginia via a Gopher.

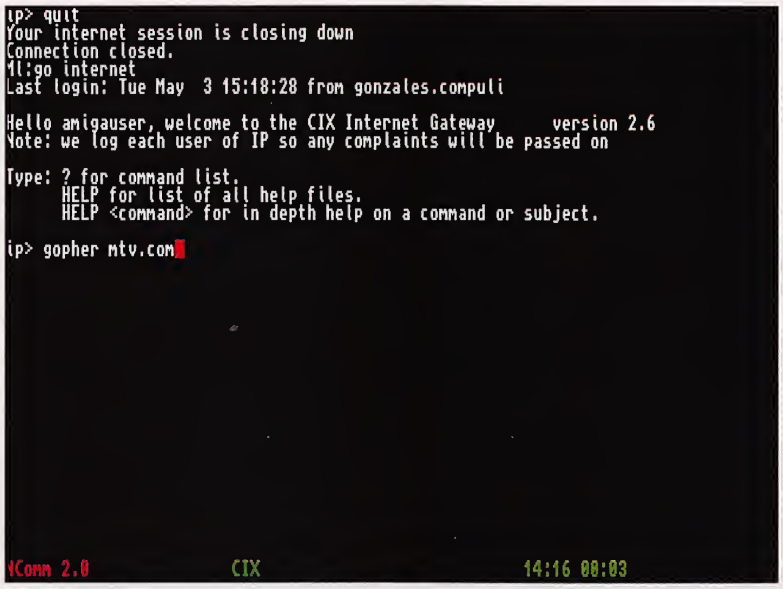
Internet Gopher Information Client v1.11
Root gopher server: ecosys.drdr.virginia.edu
--> 1. Welcome to the EcoGopher Project at the University of Virginia!/
2. The U.Va. Division of Recoverable and Disposable Resources.
3. The University of Virginia Environmental Programs/
4. Connect to the U.Va. Resource Tracking System!/
5. Organization: Environmental Groups/
6. Action: Programs, Calendars and Things To Do/
7. Communication: Electronic Mailing List Mailboxes/
8. Education: The EcoGopher Environmental Library/
9. Exploration: Gopher-accessible services/
10. EcoChat! - login: ecochat <TEL>
11. Katie - Keyword-search of All Text In EcoGopher <?>
12. :-) :-) :-)

wrong word, almost, impossible to control. Hence the recent bewildered outcry by confused MPs and others about pornography on bulletin boards. The Networks certainly do provide opportunities for total freedom for even the most extreme ideas - though it's difficult to imagine them being put into practice over the telephone line. There are dozens of obviously sex-orientated areas with such clear titles as ThrobNet, WildNet even KinkNet, where discussions of even subjects like bestiality - "Happiness is a warm puppy"- are carried on without censorship. This whole development has so alarmed the US authorities, who still at least indirectly provide some of the funding behind the Net, that they are attempting to impose a "Clipper chip" which would, in theory allow them to bug into any of the present, according the author of The Net Guide, "utterly ungovernable anarchy". As you may imagine, Netters accustomed to the unusual freedom the Net affords are resisting the idea.

Usenet Groups

With a full Net connection, you can also have access to any of the 5,000 or so online discussions known as Usenet Groups. These cater for every imaginable interest, from accountancy to zoology via foot fetishism and extremist political propaganda. They're organised into categories: you can post questions and have them answered by experts or you can make you own contributions. You can take part in live discussions or you can "lurk" unobserved while others unburden themselves.

As the new, one million per month, Netters are finding out, there is such a huge number of opportunites open to them that there may be a radical change effected in the way we view communication. The 20th century has been the era of mass communication that has spread ideas, expectations and ambitions with accelerating speed across the world. The Networks are providing the chance to re-establish individual communication but now with vast - and ever-growing - numbers of people; Cyberspace as Marshall McCluhan's long-heralded Global Village. IRL, "Network" could turn out to be the most influential word and idea of the 21st century. ***AUI***



By simply typing "Go Internet" on CIX you have access to a whole new world of information.

Service Providers

Here's a brief list of service providers. Not all of them offer full Internet connections, although many of them are constantly upgrading the kinds of services they offer. And, of course, many of the providers (like Compuserve, CIX, or GreenNet) offer their own services. The only Amiga BBS in the UK which offered access to the internet has closed that service due to cost (although we would love to be corrected if anyone knows of another in existence), which means the way to get on is now via other systems, such as CIX.

Remember to check also whether or not they offer local dial-up facilities. Nothing like trunk route call charges to spoil your fun.

<< Demon >>
e-mail ————> internet@demon.net
voice ————> 081 349 0063
fax ————> 081 349 0309
<< Compuserve >>
e-mail ————> MT@csi.compuserve.com
voice ————> 0800 289 378
<< CIX - CompuLink Information Exchange >>
e-mail ————> cixadmin@cix.compulink.co.uk
voice ————> 081 390 8446
<< The Direct Connection >>
e-mail ————> helpdesk@dircon.co.uk
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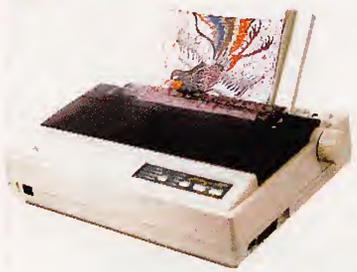

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Star LC100 Colour	**£129.99**
Star LC24/100 Mono	**£169.00**
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- Built in 55 sheet feeder
- 24 Pin Colour

Starjet SJ48 Bubblejet	**£210.00**
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Citizen Swift 240 Colour	**£250.00**
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HP Deskjet 520	**£279.99**
HP Deskjet 550 Colour	**£429.99**
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The Microvitec 1440 is a multisync monitor compatible with the A1200. Includes setup memory for different resolutions.

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Falcon 030

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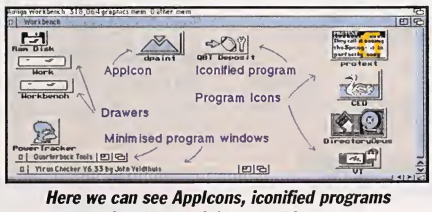
Patrick Howlett continues to blow apart the mysteries of this excellent machine.

E-x-p-l-o-d-i-n-g the A1200 PART 3 Workbench

Buying an A1200 or 4000 doesn't just get you the latest and bestest Amiga, it also comes with Workbench 3, which blows away the earlier versions and can make Mac and PC users a little green too.

Although the standard Workbench configuration is perfectly reasonable, the ability to customize so many of its features really makes it stand out as a GUI which has come of age. Customizing can be done in several ways, there is of course the preferences drawer, which contains many programs to modify parts of Workbench and this in itself can transform its 'look and feel'. Another way of improving the Workbench is to get hold of some of the many PD and Shareware utilities which can add so much to the Workbench. These can range from simple cosmetic alterations to a complete revamp of the WIMP interface.

Starting with Workbench's own preferences drawer we can begin to customize general aspects of the system to suit our personal taste and preference. Although many of the changes we can make are simply in appearance, it can be definitely worthwhile implementing them, especially if Workbench is used for long periods. It's amazing the effect that a more attractive set of fonts has on the look of the system and, as we shall see later, we can eventually change the appearance out of all recognition.



Here we can see AppIcons, iconified programs plus the usual draws and icons.

Fonts

So, starting with the fonts preferences program, which is found in the system preferences drawer, we find that there are 3 separate font selections we can make. Icon font is the font that will be used for all Workbench icon names i.e the text that appears under the icon.

As a general guide keep to 10 or 12 point sizes since larger fonts will take up too much space. Clean fonts such as the System font look good for icons but depending on your screenmode preferences (see later), it's generally a case of trying a few selections out. Also, this is the only text which can be given any colour from the palette, so try different colours as well. Clicking on 'use' will allow you to view your font selections without altering the permanent setup whereas 'save' will save the current selections for future use. These two options are common to most of the preferences programs and allow for easy experimentation.

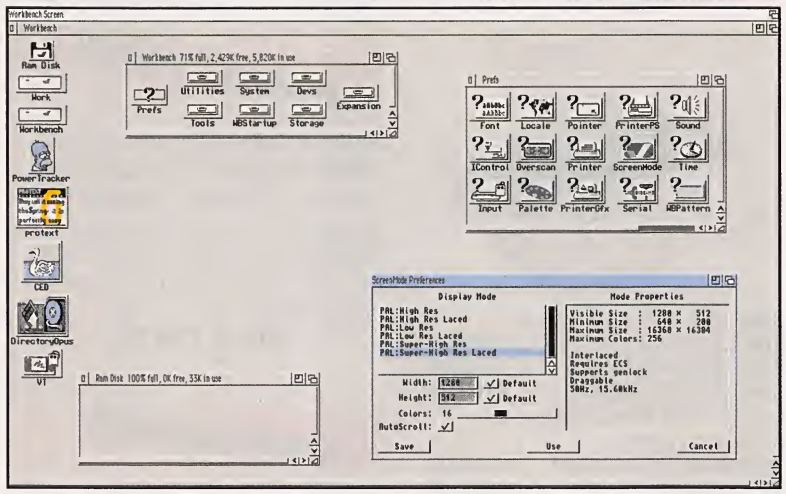
Next we come to the screen font. This font is used throughout Workbench for window names, pull down menus, requesters and so on. Some fonts will have the effect of increasing the size of the windows name bars and gadgets etc. So a bit more experimenting may be needed here. As you can see from the picture, 12 point Granite adds a bit more to the size of the drag bars and looks a lot more agreeable than Topaz.

The system default font is the final category of font that we can choose. Depending on how you use the machine this may or may not appear very often. It's used for window text which doesn't relate to Workbench (if that makes sense!), so, a shell will use this font as will a window displaying text using the 'show by name' option.

Colours

The Palette preferences program is where all the colours that Workbench uses can be altered. This program usefully indicates which colours are used for menus and windows etc and provides a little test facility. However, it's down to personal taste this one and as we shall see later there are better ways of brightening up the Workbench. Similarly, the pointer preferences gives full control over the look of the pointer but does not do much else so we shall skip this for now. The screen mode preferences provides options for the Workbench screen display. Productivity and Super hires modes are very pleasant to work with but a dual or multisync monitor is necessary to get the best from these modes. Also, extra RAM will come in very handy since these screens are quite memory hungry. In fact, many applications inherit the Workbench screen properties so again extra resources should be considered essential. The standard hi res screen mode is fine for most purposes though.

A standard hires Workbench screen transformed using big fonts and loud colours into something that playschool might use.

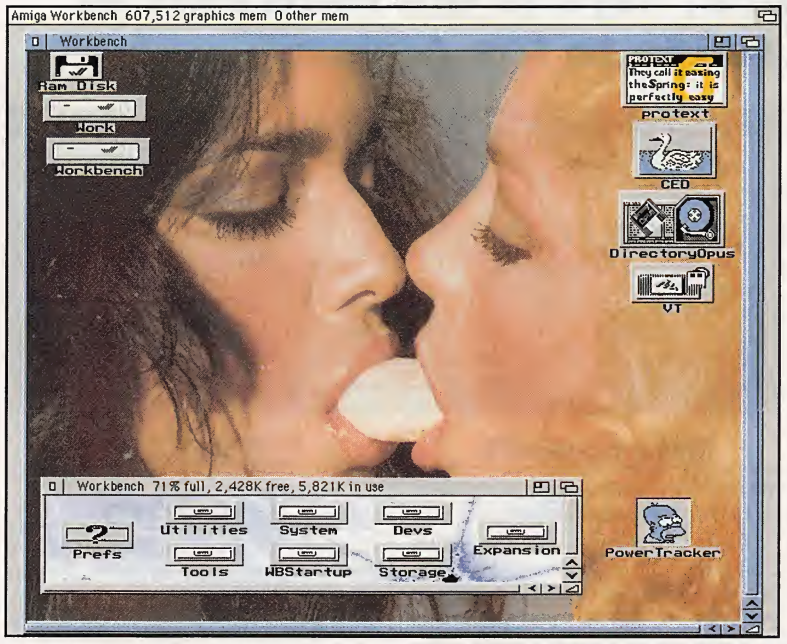


SuperHires 1280x521 Workbench screen. Needs a multisync to make it useable and this screen could do with larger fonts.

Rounding off preferences are WBPattern and Sound. The former allows a pattern or an IFF image to be

displayed as a background to the Workbench, the windows or both. Beware of eating lots of memory if an IFF is selected though. The latter defines what Workbench does when a system 'beep' is encountered, which generally indicates an error of somekind. The 'beep' can flash the screen, make a pathetic beep sound or play an IFF sample (your Amiga can literally scream at you!!).

There are several preferences programs which we haven't discussed but these are specific to things like printers and I/O, they give a great degree of control over devices and ports but are obviously specific to the type of peripheral being used. Details can be found in the Workbench manual.



A new feature of Workbench 3. This 256 colour picture eats into memory but there's a lovely set of fractals here too!

Enhancements

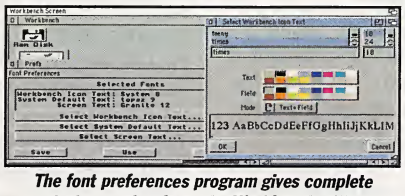
Moving on to third party enhancements for Workbench we enter a much wider field. A quick look round the office here at *AUI* shows that everybody has their own favourites. There's pyschedelic Dave (all those Magic-Menus!) Taylor with his lurid Workbench background and icon minefield competing with the restful Gideon 'screen blanker' Overhead! But seriously though, here's a list of our favourite PD and Shareware Workbench add-ons:

1. Magic User Interface – MUI is an extensive intuition enhancement utility that is very well supported by other PD developers.

It offers lots of extra Workbench functions plus the ability to customize further the look and feel of the WIMP interface.

Makes full use of the extra colours allowed under Workbench 3.

2. MagicMenus – Not as comprehensive as MUI but a very nice utility which is fully customizable. Offers easier access to menus from anywhere on the screen, a single click will display and hold menus for a preset time which reduces the number of clicks required to manipulate windows. Loads more features including 3D look menus, auto pop-to-front windows etc.



The font preferences program gives complete control over what fonts the Workbench will use.

3. WBVerlauf – A nice cosmetic enhancement which adds a graduated background to the Workbench display. It simply requires a start and end colour and then performs a smooth graduated change between them.

4. ToolsDaemon – This and a similar utility, Add-tools, allows applications and commands to be called from the 'Tools' menu list. It's also possible to add your own entries to the Workbench menu bar, providing a great deal of flexibility.

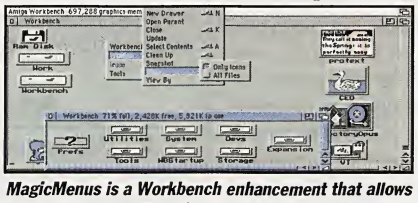
5. Turbolayers – This retains the contents of a window when it's being moved, a lot better than the default wire frame. Larger windows can be slightly jerky if you don't have an accelerator for your 1200.

6. Clocks – A generic title this one. The standard clock is OK but several PD clock programs exist which are a lot better, depending on what you need. You do need a battery backed clock though, which unfortunately isn't standard on the 1200.

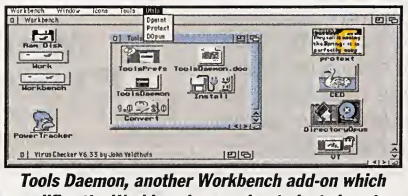
7. Screenblankers – Another generic title. Quite a variety are available ranging from small variations on the standard vector blanker to sophisticated blankers with a large selection of different blanking effects.

8. Icon Editors – The supplied icon editor is a definite improvement over the earlier, and dire, Workbench IconEdit but check out some of the PD editors as well. Customising icons is easily done, but a fair amount of care and skill will be needed to avoid turning the Workbench into something resembling childsplay.

9. Readers, viewers and Directory utilities – It's very worthwhile having one or two of these types of program sitting on Workbench. If you need to quickly read a file or look at a picture then these utilities will always be on hand. Our favourites are ViewTek and Directory Opus, but there are lots more similar programs in the PD. Incidentally, if you want a program's icon to always be on the Workbench screen, simply drag it from wherever it lives onto Workbench and with the icon still highlighted, select 'leave out' from the icons pull down menu. It will then appear every time Workbench is booted up.



MagicMenus is a Workbench enhancement that allows access to menu items from anywhere on the screen.



Tools Daemon, another Workbench add-on which modifies the Workbench menu bar to include extra items.

10. Finally, all the other weird and wonderful utilities which really come down to personal preference. Remember love-hearts from SuperDisk 27? A silly little hack maybe, but there really is something for everybody out there, from beginners to hardened Amiga fanatics.

Public Domain

Most of the decent PD utilities around are now only compatible with Workbench 2 or 3. The use of standard libraries for things like requesters means that these utilities are becoming highly polished pieces of software, belying their existence in the public domain. Many programs, commercial and PD, make use of AppIcons, onto which other (file) icons can be dropped for processing. Another extra feature of Workbench 2 and 3 is the ability for a program to be iconified, where it remains in memory, ready to pop-up when the icon is double clicked. This can happen when the user quits the program or leaves the program multitasking – an icon representing a currently running program is sometimes known as a deposit!

With Workbench 3 and to some extent Workbench 2, Commodore have produced a GUI which does the Amiga proud. That's not to say that previous versions were bad, it's just that they lacked so much of the functionality present in the newer versions. It's fair to say that a lot of bugs have been ironed out as well, reducing the number of GURUs of which 1.3 users will be only too aware.

The downside with Workbench 3 and a vanilla 1200 is that a hard drive is almost essential. Continual disk swapping using a floppy based 1200 is a real pain, but as drive prices come down, most 1200 users will look to a hard drive as an essential add-on. With the system on a hard drive the possibilities are much wider, and the power and flexibility of Workbench comes into its own. *AUI*

EASY ACCESS

***WIMP** – The original computing term for Windows type interfaces – coined by Zerox it stands for Windows, Icons, Mouse, Pointer.*

***GUI** – A standard computing term meaning Graphical User Interface. Applies to any WIMP environment, used by the Amiga but also Apple Macs, Windows or PCs etc.*

- ***PD** – Public Domain. Programs in the Public Domain are freely distributable, completely free for everyone to use and spread.*
- ***Shareware** – Again, freely distributable software but this time the authors request a small payment if the program is used. Payment of the fee often buys a registered version of the program, which usually will be the complete program.*

The AUI A to Z of the Amiga

PART III

Continuing to dive into the depths of computer jargon and coming up with an easily accessible smile, here is the third part of *AUI's* Guide to the Amiga.

Libraries

Libraries - suites of functions that programs can use. Most programs running on the Amiga will essentially be strings of library calls with their own bits glueing the whole thing together. The most essential libraries are resident in the KickStart ROM, with others in the libs: directory of the Workbench/ boot disk. Programmers are not, of course, restricted to the standard set of Commodore libraries but can also write their own. The Amiga makes use of SHARED libraries. A library can be called by many DIFFERENT programs, without the need to include that code. Use of libraries and other conventions have the advantage over direct access to the hardware (known as "hitting the metal") in that should the hardware change, all that is needed is a rewrite of the library and the old software should still work.

Lisa

Lisa - the AGA replacement for Denise. Lisa operates faster and can address memory 32 bits at a time, effectively increasing its bandwidth, which allows lots of lovely new features, such as use of HAM and the new HAM8 mode in any resolution, memory permitting.

Locale

Locale - a new (as of Workbench 2.1/ 3) standard for writing software available in several languages. All the text for the gadgets and menus can be written for several languages and the program just has to check the locale preferences to load the appropriate set. Locale also covers information like time zones, and what particular currency symbols, date representation etc. should be used.

Megabyte

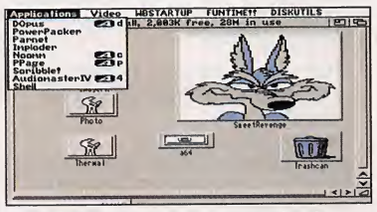
Megabyte - Meg or MB - 1024 Kilobytes. Use to be regarded as a huge amount of memory, especially by users of ZX81's. These days Amigas come with at least two.

Memory Protection

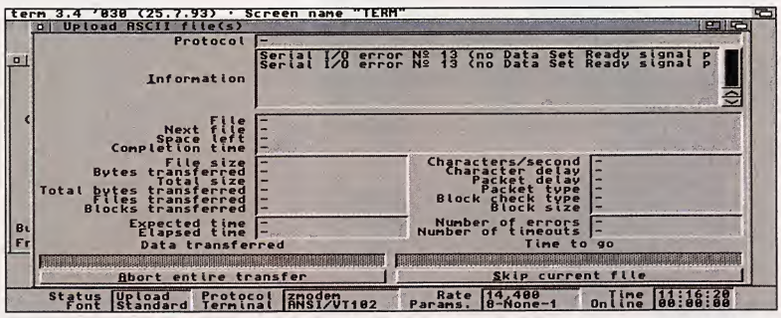
Memory Protection - a feature some operating system that attempts to prevent programs from writing all over memory used by other programs, essential in a multi-tasking environment. Due to the Amigas OS and its use of shared libraries, memory protection has not been a viable option for Commodore and developers. Instead, good use of the CBM developer tools, Mungwall and Enforcer are required to avoid any memory clash problems.

Menus

Menus - those lists of functions that appear when you hold down the right mouse button. Most Amiga programs use them to receive instructions from the user.



Selecting commands is easy using the Amiga's pull down menus.



Microsoft

Microsoft - Think of all the monster technology corporations in science fiction (eg Cyberdyne Systems, Tyrell Corporation, IBM), combine it with the political tactics of Orwell's Party and the NSDAP and put the archetypal computer nerd in charge and you've got Microsoft. *(Only joking, Bill - we love you really).* Microsoft's only 'contribution' to the Amiga has been AmigaBasic (do I detect a conspiracy here?) which is not universally renowned for it's speed and power because it hasn't got any.

MIDI

MIDI - Musical Instrument Digital Interface - a standard for connecting electronic musical instruments, sequencers computers etc together. Allows you to control sound hardware superior to that of the Amiga. The Atari ST has always had MIDI built in as standard, which is why it has made so many in roads into the music industry. The only Amiga to have one as standard was the CDTV. You can pick them up for £80 or so these days.

MMU

MMU - another chip to augment the CPU - this controls access to memory, enabling features like memory protection and virtual memory. The Amiga doesn't normally use them so they are not much use, but applications such as Enforcer and the UNIX OS require an MMU. Both the 68030 and 68040 (not EC models) have built in MMU's.

If you have access to a Modem you have access to the world.

Modem

Modem - MODulator DEModulator - a little (these days) gizmo which attaches to your serial port and to a phone line, thus giving you access to other similarly equipped computers. These days many modems also allow you to send and receive faxes too.

Motorola

Motorola 68000/020/030/040 - a chip from the 68000 series is at the heart of every Amiga. The original 68000, used in the A1000, A2000, A500, A600 and CDTV is 16-bit chip running at a tad under 8Mhz. The 68020 is a faster, fully 32-bit chip, the 68030 the same but faster, adding an integral MMU and the 68040 incorporates a built in FPU. There are also 'economy' versions of these chips, popular in cheaper accelerators, which lack extras like the MMU and FPU. The 68EC020 used in the A1200 doesn't have a full 32bit address bus - which is why you can't take the A1200 past 8megs of FAST RAM without fitting an accelerator. Motorola's Power PC next?

MPEG

MPEG - Moving Picture Experts Group - a development from JPEG; this time the group/standard is concerned with simultaneous audio and video. The compression algorithms are so good that it is possible to fit 70 minutes of broadcast quality video with CD quality sound on to one CD. The CD32's

With MPEG 70 minutes of FMV can be squeezed on a CD.

FMV add on utilizes MPEG. As happened with audio CDs, FMV CDs will eventually replace the videotape.

MSDOS

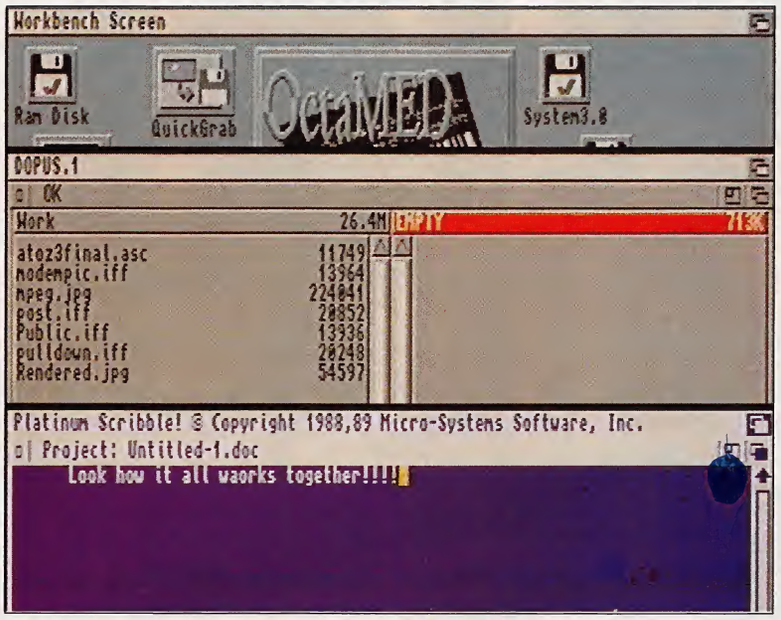
MSDOS - Microsoft's DOS as used by the IBM PC and compatibles. Not worth the disks it comes on, but, sadly the most popular operating system in the world. AmigaDOS is far superior; just compare the shell to the MSDOS command prompt.

Multitasking

Multitasking - the ability to have more than one program running at a time. The Amiga employs pre-emptive multitasking, which means sharing the processing between programs (tasks). It's the responsibility of Exec to divide up processor time between the various programs.

OCS

OCS - Original Chip Set - term coined with the introduction of the AGA - referring to the original, pre-ECS Paula, Agnus and Denise. Still more powerful, in some ways, than the best the PC and Mac can provide, even today.



The Amiga can have them running and actually working all at the same time.

Operating System

Operating System - the interface between hardware and software, an operating system is a program, or more often, a group of programs that runs the system. The Amiga has a very powerful multitasking operating system - the first available on a microcomputer and in many ways the best.

Outline Fonts

Outline Fonts - these differ from bitmap fonts in that they are descriptions of the shape of the font rather than the image - they can therefore be scaled without introducing jaggies. The first outline fonts on the Amiga I know of were used by Aegis Videotitler. Gold Disk was the first company to use the Agfa Compugraphic variety, which was probably what prompted Commodore to support them in Workbench 2.04.

Parallel Port

Parallel Port - a port on the back of the Amiga which is most commonly used to connect printers. Referred to in AmigaDos as PAR:. Faster than a serial port because it can send 8 bits at a time.

Paula

Paula - the Amiga sound chip, capable of reproducing 8 bit four channel stereo sound to a high standard (although not quite CD quality). Unchanged since the OCS. We should see an improvement with AAA.

PC

PC - Personal Computer. The Amiga is a personal computer, but if you told the average Amiga owner that they had a PC or the average PC owner that an Amiga was a PC they would disagree because the term is misused to mean IBM PC compatible.

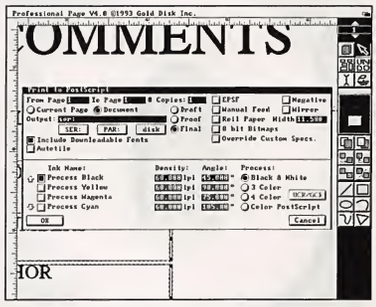
PCMCIA

PCMCIA - a standard for credit-card sized peripherals like memory cards adopted by Commodore for the A600 and 1200. Popular among notebook PC's. We're beginning to see more interesting devices like modems now, but using them requires special driver software.

The A1200s PCMCIA is type 2 compatible, in case you were wondering.

PostScript

PostScript - a computer language that specialises in describing printed pages. A PostScript file will print at the best resolution possible on any PostScript output device. Adobe launched it in 1985, and along with Aldus PageMaker, the Mac, and the Apple LaserWriter that it was built into, it caused the desktop publishing revolution. Commodore, deciding that the Amiga should keep up with all the latest developments, released a PostScript printer driver. Shame we had to wait until 1992 for it, but there you go...



PPage 4.0 allows PostScript output.

Preferences

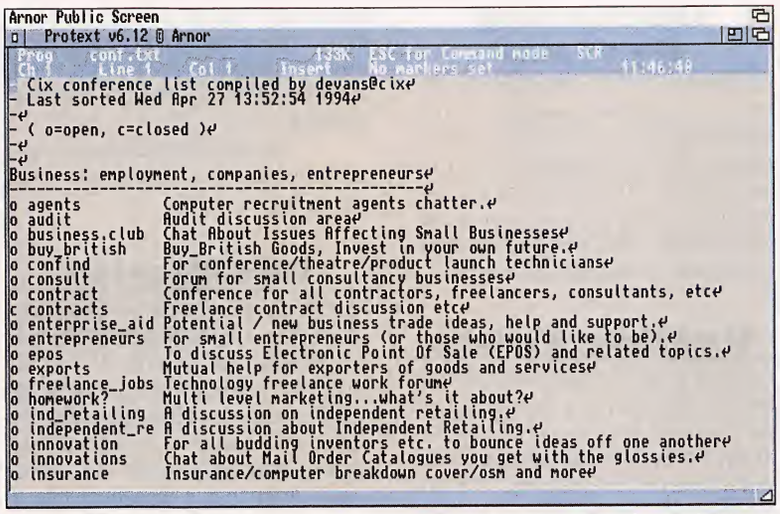
Preferences - originally a Workbench program that allowed you to set things like screen colours, printer drivers etc, split into many function specific programs in Workbench 2 onwards.

Public Domain

Public Domain. - out of the kindness of their hearts, many Amiga programmers will slave away, getting square eyes and little sleep, on some small (but often large) and usually useful project, only to give it away, to you, the public, with absolutely no charge. Whilst not strictly PD, shareware, giftware and even whiskeyware (!) are freely distributable but the authors ask that a small fee, gift or bottle of whiskey be sent if the program is used regularly. The Amiga has generated a very large and active PD scene, with programs ranging from small utilities to major applications.

Public Screens

Public Screens - a new screen definition that appeared in Workbench2.0. It allows programs to easily open windows on a screen that another program has created. Steve Tibbet's PSX is an example of a utility that



Public screens allow you to open windows on a screen that another program has created.

allows you to open a Public screen. Most modern programs either open public screens or give the option to open on one.

QuickTime

QuickTime - or more accurately Abysmally Slow Time - Apple's attempt at a digital video standard for the Macintosh. Inferior to MPEG, and when it comes to playback speed, an Amiga 1200 could play an ANIM faster than a Mac Quadra could play a QuickTime movie of similar quality, so there.

RAM

RAM - Random Access Memory - the memory that the computer uses to do all its work in. On the Amiga RAM can be divided into two types; CHIP RAM and FAST RAM

Registered Developer

Registered Developer - somebody, or a group of somebodies, who produce Amiga-related products, or simply need or want to know about Commodore's intentions for the Amiga before the rest of us. As a developer you get access to the latest Kickstart updates and all the programming information you need if you are writing applications. Plus, Commodore might let you in on a few secrets, if you're lucky (don't hold your breath). There are three levels of develeperdom, Registered, Certified (don't tell PC or Mac people you're certified, they might get the wrong idea), and Commercial, with varying levels of privileges.

Rendering

Rendering - on a computer, rendering is usually taken to mean the transformation of a 3 D scene stored mathematically in the computers memory into a displayable 2 dimensional image. The most accurate form of rendering is Ray tracing, which mimics the way light rays behave in real life and is capable of photo realistic results.

RISC

RISC - Reduced Instruction Set Chip/Computer - a CPU which operates faster because it has a very small, simple set of instructions which run very fast instead of very many, more complicated and slower instructions on traditional CPUs (like the 68000). At the moment RISC technology is far ahead in terms of speed; and a future Amiga may well be based on this technology.

ROM

ROM - Read Only Memory - permanent memory that cannot be erased or written to - usually used to contain a computer's basic operating system.

Rom Kernal Manuals

Rom Kernel Manuals - Commodore's multi-volume guide to the technical aspects of the Amiga - essential reading if you intend serious Amiga programming.

RTG

RTG - Re-Targettable Graphics - a stated aim for a future Amiga operating system; the ability to run Amiga programs with screens, windows et al on third party graphics cards via device drivers.

That's all for this month. ***AUI***

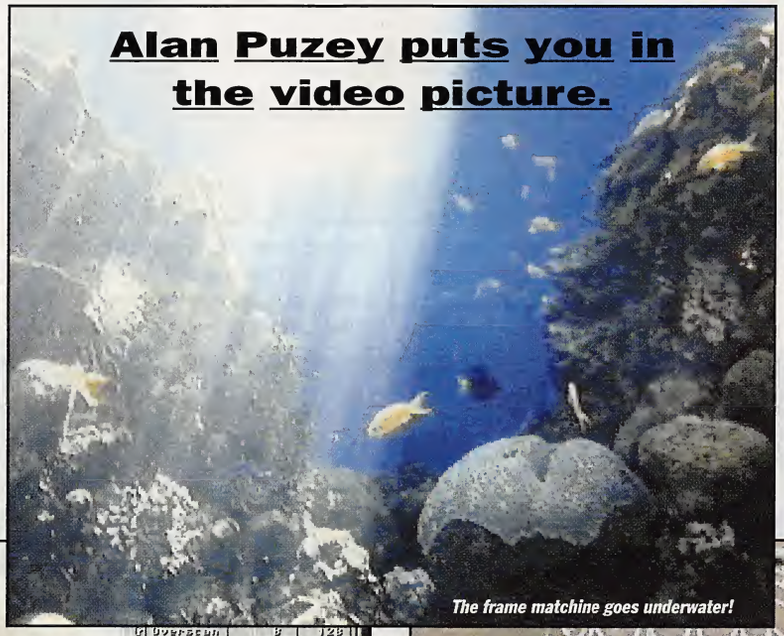
The Amiga is the best home computer at rendering.

A beautiful sunset and a beautiful result.

THE VIDEO COLUMN

Not brilliant weather, but still breathtaking.

Alan Puzey puts you in the video picture.



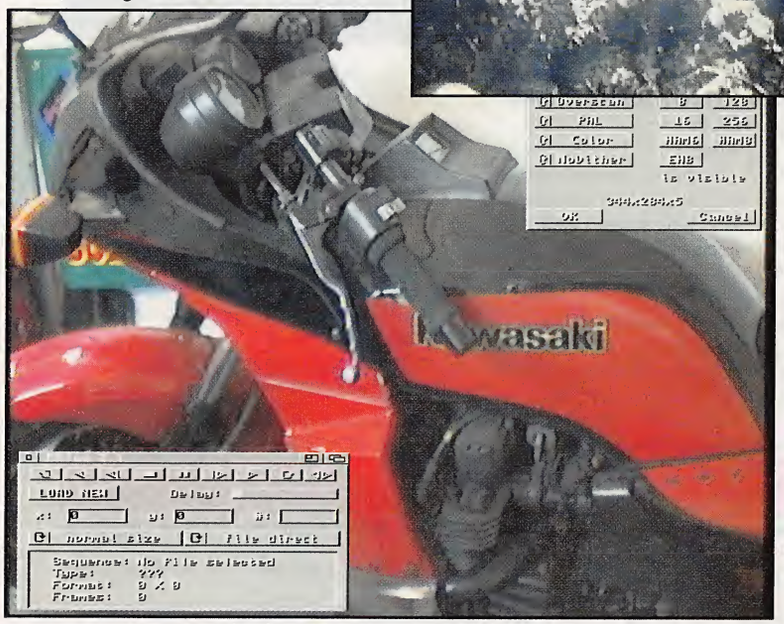
The frame matchine goes underwater!

Hi-Q's NEW "FRAMEMACHINE"

"FrameMachine" is a REAL real-time frame-grabber and digitizer. This board/software combination will recognize any external analogue video signal and convert it to digital 24 bit format at 25 frames per second and store them in internal memory.

This memory is housed on the FrameMachine board, thus avoiding complicated memory operations through the Amiga. This image data can then be retrieved at any time and played back in full 24 bit quality using the "Prism 24" program.

So time-base correction of video sequences, real time scaling, further image manipulation and the placing of sequences in windows is made possible. As FrameMachine works at 50 half-frames per second, all operations can be carried out in real-time, providing that the Amiga is not multi-tasking. This means that it may be used as a video-mixer, mixing full frames in real-time.



Lovely on screen requesters make it easier.

FrameMachine will run on any 2000, 3000 or 4000 series Amiga, and while it will work on basic machines, it requires a large hard drive and mega memory to be fully utilized.

AVIDEO 24 BOARDS

The AVideo series of boards have been supplied by HiQ and "AVideo 24" are supported, up to a maximum of 768 x 580 pixels. The animation software makes full use of compression routines and double buffering is standard. On all boards, the Amiga imagery may be intermixed with the image stored in AVideo's frame buffer; this means that all types of Amiga animation effects in low or high res mode (including HAM) may be superimposed on the 24 bit image stored in the buffer.

With the arrival of these new boards, HiQ want to clear some of their old stock from the shelves and are making *AUI* readers the following offer. They have approximately a dozen "AVideoYC" units to clear and these will go (at the giveaway price of £129) to the first customers phoning HiQ and mentioning "*AUI*". The AVideoYC comes as an external box that plugs into the Amiga 23 pin video output and thus interfaces with any Amiga - including the A500 and A1000. A great offer.

I don't like spiders, but this looks good.

is the latest in the series - being a daughter-board that handily fits into the Amiga mother board as a replacement for the video (Denise) chip.

All regular Amiga resolutions

The FrameMachine (including Prism 24 software) retails at £599 and the AVideo 24 at £299. By the time you read this, "TruePaint" - a new alternative 24 bit paint program for

What a view! All brought to us by the Amiga.

Why hasn't Venice sunk yet?

FrameMachine, should be available for about £50 extra.

Contact HiQ Limited 176 Kenton Lane, Harrow, HA3 8SU or telephone 081 909 2092.

TELETRAIN SUPERPIX

For many years, TeleTrain have operated an Amiga bureau for digitizing pictures and composing MIDI-controlled sample soundtracks. They have now extended this to join the growing number of companies offering background pictures and textures for use in multimedia production.

What makes TeleTrain's approach different is that they have joined forces with a major London-based picture library that supplies a wide range of the high quality images. This means that you can contact them with a request for specific pictures to be digitized from this vast source, on almost any topic, anywhere in the world. Though this personal service is on a one-off, customized basis, TeleTrain have also launched a pre-digitized collections for starters and the initial subject categories include:

Textures, Backgrounds, Special Effects, Snow, Desert, Nudes (very tasteful - the sort you can show your mother), Fireworks, Night Scenes, Pastoral Scenes, Egyptology!, Custom Cars, Clouds, Sea and Underwater and there are plenty of others..

There are usually seven lo-res interlaced pictures per disk and the minimum order is four or more disks, priced at £4 per disk. There are two 'sampler' disks containing images from various categories available for just £6 the pair.

This particular resolution was chosen as it offered a fair selection of good quality images per disk. TeleTrain thought that two 24 bit images on a disk did not offer the buyer enough choice, whereas lower resolutions lacked quality. As part of their 'customized' service, they will supply images in any format from 24 bit down - as requested by the customer. This seems an ideal approach, and though Amiga owners will not normally have access to such a wealth of images (copyright-free), they will probably have a program such as Art Department with which to change the resolution to suit their requirements.

Examples from the disks showed that they were of superb quality and offered pictures with far more impact than the ubiquitous 'blotting-paper' textures of many other image suppliers. Be bold and try some of the images such as 'Fireworks' or 'Night Scenes' for added effect in your productions, or if you still prefer more subtle background pictures, then the 'Underwater', 'Sea' and 'Cloud' series should suit you and are really different.

For more information, contact Glyn Collins, "TeleTrain" at 6A Glyn Mansions, Hammersmith Road, London, W14 8XH or telephone 071 602 2592. ***AUI***

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- Zip-on compartment for documents
- Luggage tag with button-down flap
- Detachable shoulder-strap
- Cushioned handle for easy-grip

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Designed for A4 size note pads. Holds two 3½" diskettes and folds flat. Perfect for the Executive on the move.
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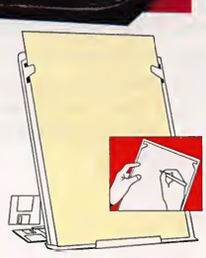

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_____ Post Code _____

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No: | | | | | | | | | | | | | | | | |

Expiry Date _____ Signature _____

Please allow 28 days from receipt of your order. Goods are sent by courier service AUI/E

HEIMDALL 2

Core Design £34.99 1 Meg

Heimdall 2 is the apple of Core's eye at the moment. It would be; it's their latest game. Into the Hall of Worlds is the sequel to the excellent Heimdall and reunites us with our hero. He spent the first game gaining his divinity and now he has to sacrifice it again. Why?

Well, because the plot requires you to. Loki, the evil god, is up to his old tricks again, causing havoc. The only thing to stop him is an ancient amulet that will immobilize any god. Thing is (and I'm guessing here, pure conjecture, no hard facts) it doesn't look as if Loki is behind all this trouble. The hints you get along the way seem to suggest that something else is going on. I'd tell you more, but that's as much as I think you should know from me..

The look of the game is pretty similar to the first one. There are lots of changes in the way it all plays. Most noticably the fights are resolved in the game. There's no separate fight sequence; it's a case of hack away and see if you win. There's some skill to it, but I quite liked the old system, even though it looked very different to the rest of the game (which, I guess, is why Core scrapped it).

A rather nice aspect of the first game was the initial sub-games that decided your attributes, but there's nothing like that here. Then again, you're supposed to be a god, so there's little point working out how 'hard' you are.

The animation is what you'd expect from Core - blinking good. The animated cartoon idea is really coming to fruition. Very much like Premier in looks, except it's got more directions and heaps more gameplay.

The little animations that crop up from time to time as you encounter people are excellent.

A little lacking on the sound though, I fear. Not much going on in this department.

Instead, let's concentrate on the gameplay. There's two characters under your control, Heimdall himself and a Valkyrie (the chapesses who used to sing the brave warriors to Valhalla after they died or so we're told). The joystick controls them around the screen and the mouse is used to move stuff around their backpacks and to select spells and the like.

At the beginning, you enter a hall (you guessed it, the Hall of Worlds) and start your search for the missing pieces of the amulet. And let me tell you, this is not an easy task. As you progress, the story unfolds with each person you meet telling you just a little more. Who exactly is behind the war between the villages. They both think it's the other side, a bit suspicious. Pop and visit the fisherman who's locked in his cupboard (for only Odin knows how long) and then head off and rescue his daughter. But I'm telling you the plot...

There are a variety of weapons, from throwing hands and bows to swords and stuff like that. You'll need them as well, because not everyone you meet wants to be your friend. In fact, most of them want to beat the **** out of you. (I know how it feels, Heimdall!)

Spells and scrolls will help you too. Some are offensive, for use in combat, and others are general ones to restore energy.

On reflection, I'd say Heimdall 2 is a pretty fine effort. I was kind about Darkmere last month and I think this plays even better (the games have their similarities - well, they're both isometric and involve you running all over). It's the looks of the game that give it class. Pretty good stuff. If you liked the first one, you'll fondle cows' udders to get you hands on this.

Enter the hall and choose your world.

Alright there, mate? How's it going?

Looks like there's been a bit of a fracas here.

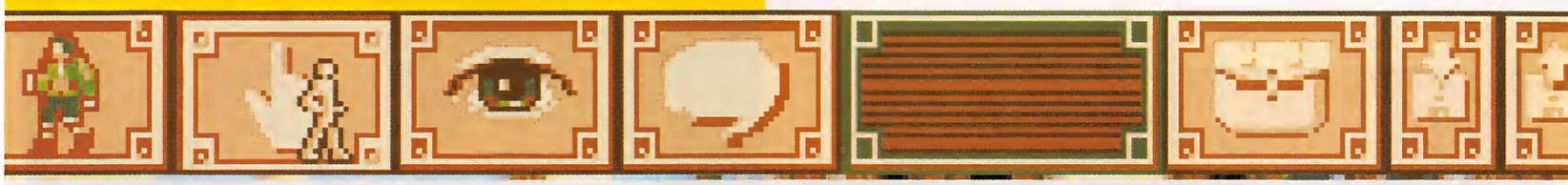
Captured already? Easy to get out.

Brr. It's a bit chilly out. Still, we're used to it, being Vikings.

Hello there. We didn't expect to see you.

VERDICT

Graphics:	93%
Sound:	N/A
Gameplay:	85%
Overall:	86%



Kings Quest 6

Sierra £29.99 1 Meg

At the start Alexander is washed ashore.

Imagine the scene. *AUI* editorial office 9.00 am, the lights are dimmed. Dave the editorial roadie has just powered up all the hardware, checked out the disk space and put on the coffee machine ready for the journos to take their places on screen. His last job before going down to typesetting is to get that morning's batch of software and hand it over to the relevant reviewer. Geoff 'the nose' Smith gets the betting programs, Antony Jacobson gets anything with a pixel of flesh in it, David Taylor is completely at home with all types of games as long as they are from Ruth at Gremlin or his other friends at Core, but without doubt anything remotely snoresville goes in Andy Moss's tray and on this particular morning that was just where Sierra's Kings Quest VI lay. He walks in, oblivious to the sniggers from the rest of the team. After all, when did Sierra release anything that ran faster than a dead snail eh? He sits down, looks at the disks staring up at him and with a resigned sigh loads up the adventure and begins to play.... and play.... and play!! CAN THIS BE? YES, IT'S TRUE! Sierra have really done it. A wondurous adventure in true Sierra style with fabulous drop dead graphics, great music, ripping storyline, tough puzzles and.... Speed!!!!

It's been a long time coming, but Sierra have kept faith with their many Amiga fans and produced a marvellous version that fairly zips along. Rumour has it that the Amiga version has been programmed by a Brit here in the UK and good for them too, for realising that there is still a huge audience over here for their products.

KQ VI carries on the continuing saga of the first royal family of Daventry King Graham, Quenn Valanice and their kids Alexander and Rosella. Newcomers needn't feel left out, as in earlier games the story is completely self contained. In the previous episode, Alex's father rescued a young princess, Cassima, and she and Alex became a brief item as they say. Life goes on however and Alex wonders if he will ever see her again. One day, he gets a message from her; she's deeply unhappy with events at her Royal Palace on the Land of The Green Isles. Alex sets sail to visit, but his ship breaks apart in a storm and fortunately he is washed up on the shore of Crown Island, Cassima's home.

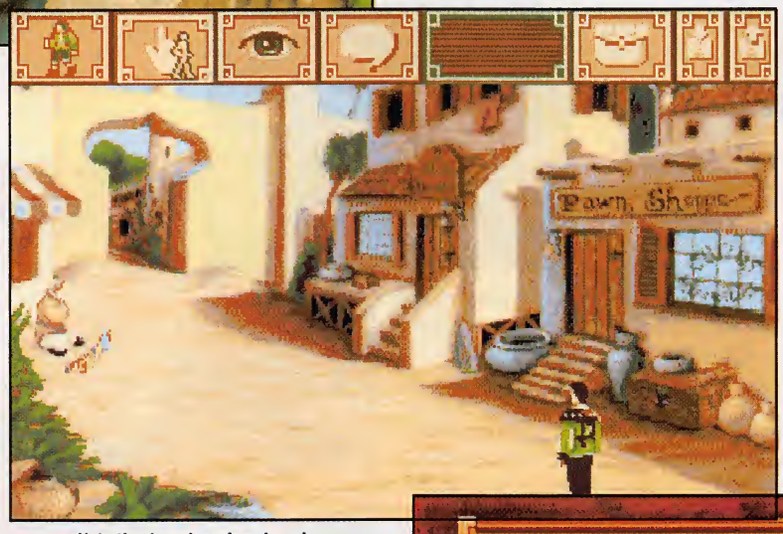
This is where your quest begins and your problems start. Although the game's central theme is readily apparent, your direction and goal are purposely vague. Through hundreds of locations, Roberta Williams, the games architect, has cut many paths, each criss crossing to one of several different endings. Ultimately the course you follow determines your difficulty level and the flexible design means that you can reach the end and yet still experience only a small portion of everything the adventure has to offer.

Gone is the traditional text parser; it's been replaced with a more intuitive graphical cursor. By simply clicking the right mouse button, you cycle through four all purpose actions: walk, talk, look, and touch. Select the object to be acted upon and then press the left mouse button. A hidden top - down menu offers additional control of inventory items and game save mechanics.

Using the expertise of Kronos, the Hollywood special effects wizards there are many cinematic sequences using unique camera angles, 3D panning and long tracking shots.

Sierra describes Kings Quest VI: Heir Today, Gone Tomorrow, as an adventure so vast you may never experience it all. You'll have the time of your life trying to prove them wrong.

It's brilliant. And heralds a whole new era for all Sierra fans.



Note the drop down icon board.

VERDICT

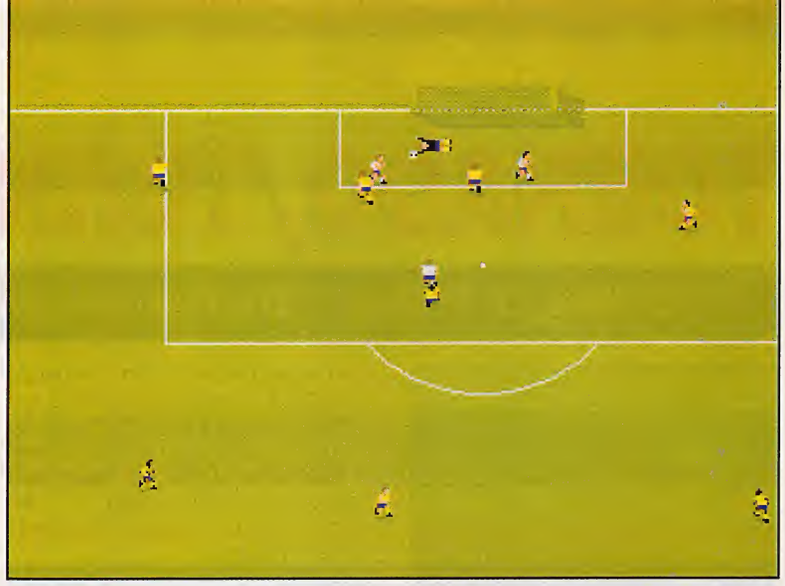
Graphics:	92%
Sound:	91%
Gameplay:	93%
Overall:	94%

Lots of dialogue boxes in this game. Who's that dodgy bloke in the cloak?

Manchester United

Premier League Champions

Krisalis £29.00



Yes! The keeper won't stop that one!

It needs a brave publisher to take on the mighty icons of computer footie, Sensi Soccer or Kick Off, but Krisalis are fiercely positive about their football products and with quite a few under their belt are entitled to be bullish.

There is a tendency in the Press to be trendy about certain games and Sensi Soccer is without doubt one of those that seems to be revered.

Picking Spurs to me seems daft if it's called Man U.

Good game that it is, for me it does have its faults as does Manchester United, but there is one overriding question about all these footie games; are they different enough to be worth forking out another 30 quid?

Sensi and Kick Off are too similar for you to buy both. MUPLC whilst clearly influenced by these classic games, does have some unique features about it that makes it worth the admission money. The 'Tacti Grid' system for a start allows you to precisely tailor your team's formation. Each player can be individually assigned to a single sector on the pitch or told to support the attack or defence. This provides possible overlapping fullbacks for an attacking team with plenty of width, or a good defensive team that breaks well.

There are all manner of variations you can factor in and the grid is accessed at any time there is a dead ball situation, so maybe you are one up with 5 minutes left, you can pack your whole penalty area with your entire side and defend your way to victory!!

The pace is fast and furious, maybe a little too fast for comfort and the goalkeeper can be a little dodgy on his kicking direction, but I like the fact that the unexpected might happen, as in real football, it's a good leveller.

The sprites look great, perform plenty of diving headers, overhead kicks and sliding tackles and the kicking method is the opposite of Sensi, you hold down the button for power and then release it to shoot. After touch is there, allowing you to bend the ball left and right and it works particularly well at corners.

The data is bang up to date, with over 2500 players and all the leagues including the GM Conference included, with up to four players managing their own teams.

The management section is in fact better than Sensi and Kick Off, and you even get to choose your teams strips, squad numbers, skin tones and who takes what at free kicks and penalties.

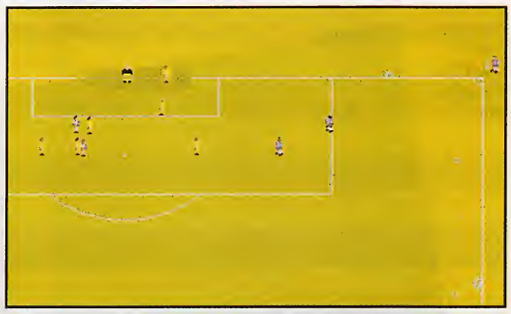
I liked it a lot, so there!

VERDICT

Graphics:	90%
Sound:	81%
Gameplay:	83%
Overall:	92%

Bang up to date. Even Ronnie Rosenthal's in.

The tacti grid for custom made tactics.



This corner's bound to be low and hard.

NAUGHTY ONES

Interactivision £25.99

With two characters looking not unlike the Blues Brothers, this entertaining platformer is a cross between Rick Dangerous and Parasol Stars. There are five worlds, each made up of a number of single screens levels that get more numerous the deeper into the game you get, but start with 11 in the first world.

The game follows the tried and tested collect,jump and zap monsters method of most platformers with you collecting a key to progress to the next screen. But as you progress things get slightly more complicated with switches to throw to make blocking walls disappear, but the switches are necessarily on the same screen!

Loads of nasties to kill and if you kill them in the right order (indicated by an arrow over their head) you get extra points. One downer is that there is no password routine, or continues to use, or any save game feature of any kind, which frankly these days is just not on. So I guess you'll just have either to get really good at it to finish, or find a cheat mode.

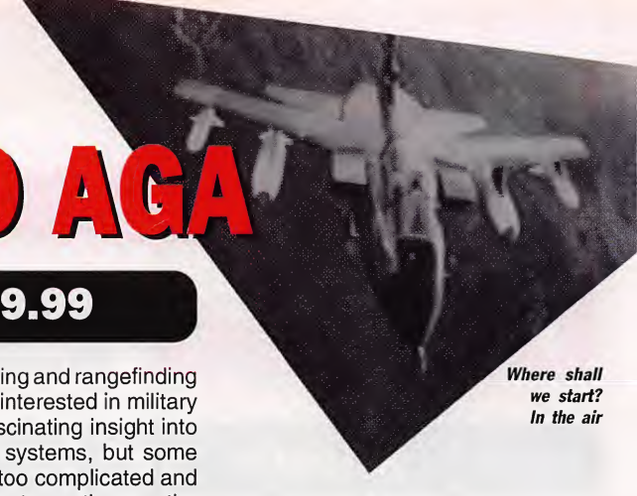
If you want a platform game that's cute, very playable and gets the brain working overtime too, this one's for you.

Well wicked! Get down and bounce with these crazy dudes.

VERDICT

Graphics:	78%
Sound:	67%
Gameplay:	70%
Overall:	73%

TORNADO/TORNADO AGA



Where shall we start? In the air

1 Meg/1.5 Meg Digital Integration £39.99

The fields below - not spectacular and a bit jerky.

Tornado from Digital Integration is a simulation of Britain's front line defence aircraft. Flying one of these babyie is no mean feat and with navigation, formation flying and combat to deal with as well, it's obvious that this is a heavyweight flight sim.

The package provides everything that's needed to learn about the aircraft and how to fly sucessfully; the simulator even provides a simulator (!) for novice pilots to train on. The hefty manual takes the pilot through every stage of development, starting with basic flight training and moving onto navigation and combat tactics as experience is gained. As a seasoned veteran of Interceptor, FSII and so on, I just wanted to get airborne and strafe a few Migs as quickly as possible and usefully, there's a quickstart option to do just that, placing you in the aircraft at 10000 feet. Once the basic flight controls have been learnt, it's then onto the more sophisticated aspects of the simulation.

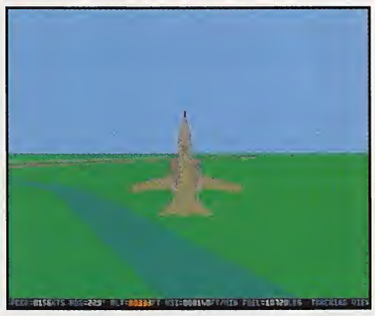
The standard option to view from outside.

The quick key reference comes in handy as there are over 170 different possible keyboard commands. Even a simple take-off requires some rapid key punching as you struggle to get the undercarriage up, adjust the flaps and sweep angle and then engage autopilot. It certainly takes a while to feel comfortable with the controls, but soon it's time to engage in some combat. This can be done using the simulator, the training missions or an actual campaign. There are 4 campaigns containing many missions. The missions slowly develop so that the end of a campaign sees the end of the opponent, with freedom and democracy for all!! Sucessfully completing even one mission is tough though. There is a great deal to learn about the principles of loft freefall and laser guided bombing, made all the more complicated by the implementation of the Tornado's sophisticated targeting and rangefinding system. If you're interested in military aviation, it's a fascinating insight into modern weapon systems, but some may find it a tad too complicated and fiddly. I found that practice on the simulator and training missions paid dividends, the secret being to plan well ahead of the target, flipping to the navigator's seat to set everything up well in advance before zooming in on autopilot.

I'm losing control - thank God it's only a sim!

Reach for the skies? No, pass me the vomit bag; I get air sick.

The automatic navigation and targetting capabilities, including its legendary terrain following RADAR do take some of the burden off the pilot, but it's still panic time whenever a target is reached since there are AA guns to be countered, targetting and timing checks to be made and finally bombs to be dropped.



Heading straight up in an attempt to shake off my opponent.

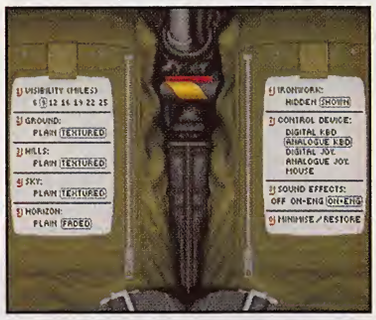
The missions acquire an eerie sense of anticipation as your squadron takes off at dawn. These formation runs require a careful check on speed and navigation since an early or late attack by one aircraft can jeapodise the whole mission. I was more frustrated with having to navigate back from a sucessful mission with low fuel and then crashing into a friendly just before landing. It's also frustrating that on some missions an apparently perfectly timed run results in the target being missed. This happens quite frequently and is a pain because each mission must be sucessfully completed before the next can be started.

This is a game with long term appeal though; the graphics are good, well up to the needs of the game, although they are very slow on unaccelerated machines. An '020 is just about OK, but something faster is much better, as is playing the game from hard drive. The AGA version won't even work from floppy since it uses a lot more memory.

Digital Integration have released an AGA version, due, they say, to public demand. It offers 256 colour screen and improved sound effects, but other than that there is little or no difference between them. I experienced a lot more problems with the AGA version. Firstly, when it says it needs 1.5 megs it really means 1.5 megs and using a hard drive with a 2meg 1200 means that it's a close shave when running from Workbench. I had to remove 2 small programs that were on Workbench to get the program running.

The AGA version does provide a few extra frills like 256 colour pictures of various aircraft for perusal and a louder engine note, but in-game there is hardly any difference. Still, if you've got AGA, may as well use it.

Some other parts common to both versions include the explore option, which simply lets you glide around the landscape at 800knots. There are plenty of external views of both your craft and all the other planes flying about, these are good fun to play with but sometimes a little restricted - remote control flying a la Interceptor, is impossible.



The display options allow some choice, but the game has a slow update anyway.

In conclusion, it's a program guaranteed to appeal to flight sim buffs and hardened combat sim freaks. This review cannot cover every detail of what is a very big simulation, so it's undoubtably going to keep coming up with new things for as long as you're interested. On the downside, there seem to be a few bugs in the AGA version and some of the more obscure flight systems appear to be there simply to confuse matters.

VERDICT

Graphics:	82%
Sound:	78%
Gameplay:	84%
Overall:	80%

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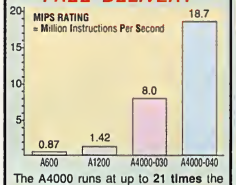

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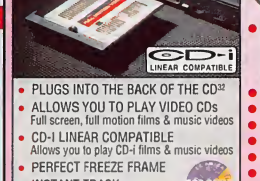

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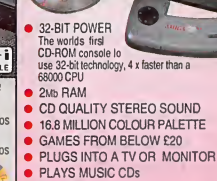

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Total Carnage

Ice £29.99 1 Meg

Mass Destruction! Yahoo!

The General's on the loose.

THE BAKER MISSION BRIEF

OK, Listen up men! We're getting closer to the general's base and so the defences are going to get a lot hairier. From your current position, you must make your way along the main supply road towards the air fields. The road is swarming with Armoured Personnel Vehicles and SCUDs. Once you reach the air fields, dig in and defend against ground troops and then destroy all the planes. There will be some air back up for you and you'll need to lay tracer beams down for the planes to lock on the targets you select. Good Luck!!!

Who said that Cannon Fodder was the last word in gruesome fun, eh?

Total Carnage is just, er, total carnage from start to finish. There is a plot, of course; some crazy, power mad General has created his own army of mutant grunts from radioactive goo produced in his nuclear generator. Ready to wreak havoc on the entire globe, El Generale has taken hostages and as much firepower as he can muster. Only the Doomsday Squad (guess who that is!) can possibly stop him. Fortunately you have an arsenal of weaponry that with out doubt will blow anything away, the only snag is you've got to keep alive long enough to use it. But hey, that's the whole point of the game isn't it?

Don't forget to save those media folks.

The list reads like a what's what of carnage - grenade, rocket and plasma launchers, flame throwers, mines, smart bombs, spray fire rifles and let's not forget your little pea shooter rifle!

Coming from the same stable as Mortal Kombat, Carnage has that familiar look about it; you know, loud, self assured and confident it knows it's on to a winner. It's packed full of large sprites in kind of Cannon Fodder meets Desert Strike meets Terminator scenario of total mayhem, with 20 scrolling battle zones, each one more testing than the one before.

There's no complex manual to work through. It's all fairly straight forward and that's what makes it work for me. You load up and you're in.

The gameplay itself is a breeze, just shoot everything except any hostages and collect everything you can lay your hands on.

ICE is an underrated publisher that one day is going to get the praise it deserves. Maybe after this one and with the great Akira to follow, Stuart Bell and the team just might crack it.

VERDICT

Graphics:	86%
Sound:	79%
Gameplay:	75%
Overall:	88%

LAMBORGHINI AMERICAN CHALLENGE

Titus £24.95 1 Meg

This road's a bit slippy, but it won't cause me any problem.

This is really CRAZY CARS 3 with a 2 player option and a Lamborghini license. Timed to coincide with the release of the Diablo, the successor to the spectacular Countach, costing a mere $240,000 with a top speed of 248 mph (that's nearly $1 per hour), fortunately the game doesn't cost that!

Welcome to Crazy Cars 3. Oppos, sorry, Lambourghini American Challenge.

The game features over 85 races in all 49 mainland states across America, mixed with day and night stages through all types of weather. As in Crazy Cars 3 the subject is the world of illegal racing, speeding along public roads avoiding oncoming traffic and dodging local speed police to win prize money and taking on bets with your fellow competitiors.

As you increase your bank balance, you can enter better races with bigger prizes and re-customize your car with essential gizmos like a police radio for spotting those road cops, super brakes, snow tyres, better gear box and best of all extra turbo boosts.

Your car will get damaged during the racing and it's up to you to decide when and how much money you spend on running repairs.

The graphics scroll as smooth as butter on silk and the atmospheric soundtrack gets the pulse beating twenty to the dozen.

As in all racing games, the two player option is the most fun to play, but if you are looking for a racing game that has depth, and a sub challehge look no further, this is it.

I win! Loads of cash. Cheers very much, pals!

The USA map with some familiar tracks.

VERDICT

Graphics:	90%
Sound:	85%
Gameplay:	90%
Overall:	90%

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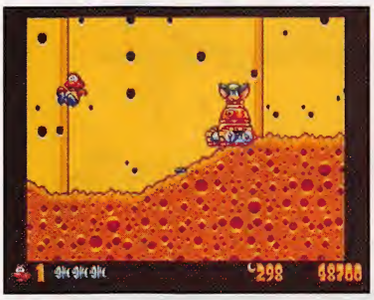


I've just been blown away by a rat in a tank!

James Pond. Robocod. Two great little puns. Where's the joke in Operation Starfish? That's what I want to know.

Anyway, our fishy pal is back once more, with his legs back and he's bigger than ever. In every sense. The levels are huge and so is the agent himself. I swear he's put on a few pounds.

Pond is brilliantly animated; it is very, very smooth. Maybe and I mean maybe, Millenium could have tweeked the gameplay a tiny bit. There are places where Pond will simply skid off a block, because he does not stop dead and you spend ten minutes trying to do that jump. It's not skill, but luck.As ever, there are tons of hidden goodies to be found and that's half the fun. Pond can now punch as well as jump on the bad guys. It's not an easy task.

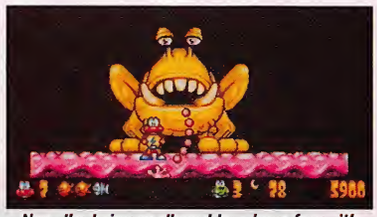
Getting up to these dizzy heights on this level is a real pain.

I could tell you the plot, like the fact that the evil Mr Maybe, whom Pond has defeated twice before, is now on the moon doing his evil things. But I won't.

Who cares? It's just an excuse for the great platform fun that is Pond III.

There's nothing much to surprise you. Jump, run, kill and collect. I loved Robocod though and this is a worthy sequel (if you can have a sequel to a sequel, that is). It's very slick indeed.

The music, on the other hand, drives you up the wall. I had to turn it off after a while, because I was risking getting committed. It's not that the music is bad; it's just the typical dinky tune that goes on and on and on...



Now, I'm being swallowed by a huge frog - it's not my day.

If you were a fan of the other two, Pond III is for you. If you've not played either of the others, you can't like platform games at all, so this is still not for you.

VERDICT

Graphics:	85%
Sound:	75%
Gameplay:	83%
Overall:	83%

Brian the Lion

A lion wearing shorts and called Brian.

A1200 Psygnosis £25.00

For some reason, enhanced versions of games always take a little longer to appear than the standard ones. Brian has now made his conversion and is available for A1200 users.

The original was a smart looking platform game, which showed all the polish for which the Reflections team are renowned. This time, it's the same, but better. It is exactly as you would expect for an AGA version - better graphics with more colours.

The game is still a lush and playable platformer with a cute sprite who has some amusing (if that's ever the right word for the 'humour' in games) traits.Brian will be a roaring success.

VERDICT

Graphics:	93%
Sound:	80%
Gameplay:	85%
Overall:	87%

GAMES NEWS

Going to be bowled over? Team 17 are continuing to bring out full, original games at budget prices. Their next effort is a bowling game, King Pin, which will appear this summer for £9.99. The game seems like it should look OK, but I've yet to play a bowling game that plays anything like the real thing. It's a hard sport to simulate, but we'll see how Team 17 do.

Will it be a strike or a strike out?

Girls and boys are represented - nice and sexually equal.

Sleepwalker

The Hit Squad

Standard/A1200 & A4000 £9.99 1 Meg

Wow. Games are really starting to appear on budget really quickly now. I guess the gap is closing up in the same way that the difference between cinema and video releases has done.

Sleepwalker was a good game at full price and is quite a bargain now. It's not an easy game though.

You take control of Ralph, a dog with a mission. Quite simply, save your sleepwalking master from getting himself killed. You are invincible, but Lee isn't. So run ahead of him and clear any obstacles.

Just walking the dog...or is it the master?

It's good fun and it's hard work. What a dog's life.

VERDICT

Graphics:	80%
Sound:	77%
Gameplay:	83%
Overall:	81%

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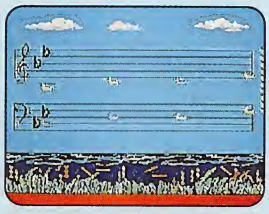

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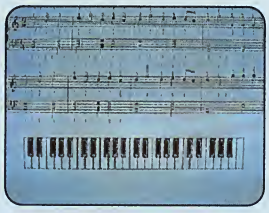

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AMIGA

Edmund Dumbill explains how a simple but powerful program has become a favourite with Amiga programmers.

AmigaGuide is Commodore's hypertext system for the Amiga. As well as providing a system for constructing hypertext documents, it can be used to provide on-line help. It's available for Workbench 2.xx as a freely distributable archive (which can be found on Aminet) and comes as part of Workbench 3.

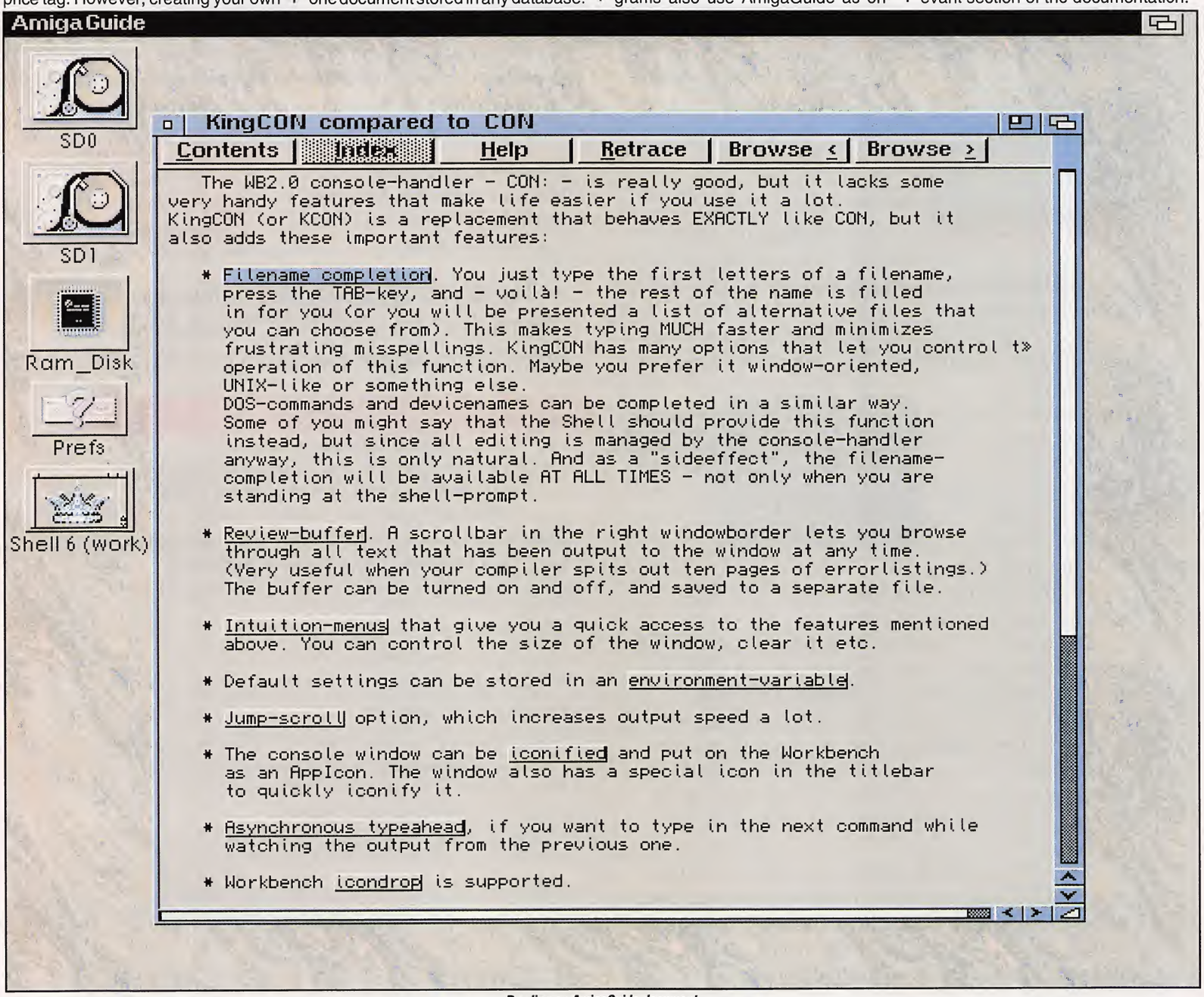
What is the attraction of AmigaGuide? Well, it has the advantage of being an Amiga standard and has gained wide acceptance with Amiga developers. It is, of course, totally compatible with the Amiga operating system and has an interface to ARexx (so it can be used with any application having an ARexx port), as well as being easy to interface with for application programmers. There lies its great advantage over other hypertext systems even commercial ones such as Hyperbook; there isn't any non-standard interface or high price tag. However, creating your own documents in AmigaGuide can be more difficult without specialised tools.

AmigaGuide consists of several parts; a database viewer (an AmigaGuide hypertext document is called a "database"), documentation, and developer information and examples. We won't go into developing AmigaGuide applications here, but we will cover the most likely ways you might meet AmigaGuide.

Documentation

Many programs (particularly Shareware and PD software) these days come with AmigaGuide format instruction files. AmigaGuide is obviously a very useful format for instruction files, as most programs have functions which break down very well into subsections. The proper AmigaGuide terminology for these subsections is "documents"; there can be more than one document stored in any database.

The structured format of the text allows you to arrive at the information you need quickly, without wading through unwanted details. Many programs also use AmigaGuide as on-line help; providing a use for the HELP key. Pressing the HELP key while the mouse is over a gadget or menu item causes AmigaGuide to load the relevant section of the documentation.



Reading an AmigaGuide document.

AmigaGuide

Libraries

AmigaGuide is also used for documenting shared libraries, such as those that make up the Amiga's operating system. Using AmigaGuide and its powerful cross-referencing, a programmer can have access to full on-line documentation of library functions, and at the click of the mouse, to the relevant language header files too. AmigaGuide provides a cross referencing system that allows you to cross reference between many different files and link them all together. A utility is also available which will scan C program files and build a one document database with the names of all structures and function definitions in buttons, and links the buttons to the relevant parts of the C source files. Without doubt, AmigaGuide is a powerful tool for programmers and users alike.

Hypertext

AmigaGuide is suitable for other, more general, hypertext applications, but as yet has not been applied very much in that area. One possible reason for this is that creating AmigaGuide databases is not always easy and requires quite a lot of thought to structure it logically; and there aren't many tools available to help database creation.

Structure

The underlying structure of an AmigaGuide database is a collection of documents. A document is a section of text (under Workbench 3 other datatypes can be used too). Within the document text there are buttons which lead to other documents. The buttons are typically highlighted words which indicate the subject of some related documents. The structure is as simple as that! Buttons need not only be links, they can be one of the following types:

1 links to other documents (as above)
2 links that open new document windows or close them
3 links that execute ARexx macros or command strings
4 links that execute an AmigaDOS command
5 links to a Workbench 3 supported datatype (WB3 only) - for example an ILBM picture or 8SVX sample file.

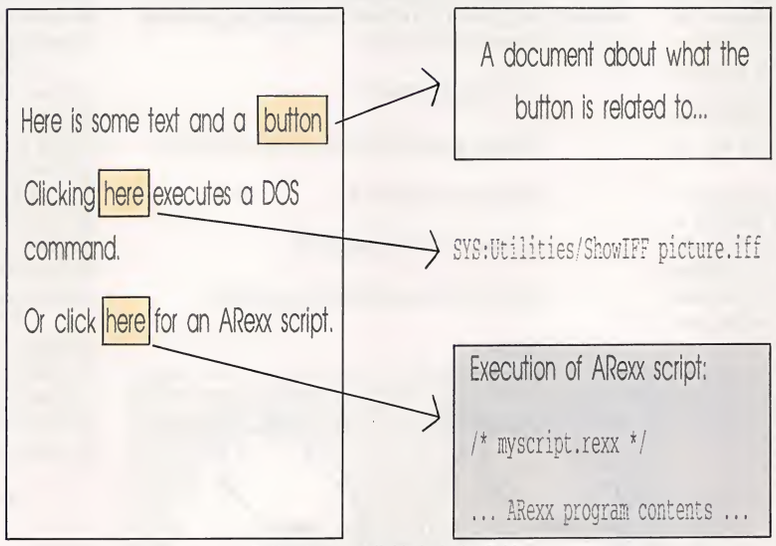
Every database has a MAIN document. This document is the one that is displayed first when the database is viewed normally, and presents the top level of the database. It is quite often the "contents page" of the database, although each document can be configured to use a separate contents page. Every document has two other properties: a name and a title. The name is used by AmigaGuide to locate the document within the database, and so must be unique. The title is what is displayed in the title bar of the database viewer when that document is being viewed. A document need not be stored in the same database as the one it is called from if cross-referencing is used (see below).

AmigaGuide also treats plain text files as documents; obviously they have no links or actions in them, but this is very useful - consider referencing program source code.

That is the basic structure of a database, which is essentially quite simple. However, there is enough power - especially with the AmigaDOS and ARexx execution commands - for quality hypertext presentations.

How to use the AmigaGuide document reader with an AmigaGuide database, navigating your way around it is very simple. Load the database into either AmigaGuide or MultiView. AmigaGuide databases usually have either ".guide" or ".hyper" as filename suffixes. You will see a window open containing the main document text, with various buttons within the text. Simply click the left mouse button on a button in the window to move to the linked document or perform the action attached to the button. If you want to display the document in a new window, hold down the shift key at the same time. There are various gadgets in the window which are not part of the text, but allow you to do other things: "Contents" displays the table of contents for the database, "Index" the index page, and "Help" the help page. "Retrace" takes you back a document. The "Browse" gadgets allow you to move sequentially through the documents regardless of the links.

The menus provide access to further functions: there is a facility for marking text for use in the clipboard, or for printing. Also you are allowed to set a "bookmark", which remembers the current document for reference later. The "Find text..." menu-item allows you to search within a document for particular character sequences; these are then displayed as buttons and you can choose which one you want to view.



Button types available in AmigaGuide.

Cross Referencing

Also included within the menu options in AmigaGuide is the "Find document..." option. This searches through the current database and all the databases AmigaGuide "knows about" to find the document. Note that this function looks for the document name (see above) not the title. So how does AmigaGuide "know about" other documents? Well, document paths can be specified explicitly in button links, but what if that is not the case? This is where cross referencing comes in. It is possible to have a list of document locations (database name, and line number) resident in memory, so AmigaGuide knows where to look for documents it can't find otherwise. This allows the subdivision of databases and makes a large number of documents easy to handle. The commands LoadXRef and ExpungeXRef provide facilities for adding these lists into memory and removing them. A particularly useful use of the cross-referencing system is in referencing the Commodore "Autodocs" (Amiga library documentation) and "Includes" (C language header files). This allows you, if you have the Autodocs, to have an integrated on-line programmers' reference manual, with access to the required information just a few mouse-clicks away (You need the Autodocs in hypertext format first). The cross-reference file necessary and Autodoc-to-AmigaGuide conversion utility are included in the AmigaGuide developers' distribution. With a little effort, cross-referencing could be used to great effect to integrate a large amount of information, and is another source of AmigaGuide's power.

Dynamic Node

Up until now, we have assumed that the AmigaGuide database was a file. This is usually the case but it is possible for applications to interact with AmigaGuide. Such an application is called a "dynamic node host". A dynamic node host is capable of producing documents in real time, and requesting AmigaGuide to display certain documents. This gives a great power to AmigaGuide for on-line help, and also opens up the possibility of an AmigaGuide window forming part of an application's user interface. For instance, if a user presses the "HELP" key while the mouse pointer is over a gadget, the application needs only to send a message to AmigaGuide to ask it to display the document, in that application's help database, which explains the function of that gadget.

ARexx

AmigaGuide has a simple but powerful ARexx interface. This means that from ARexx a script can request AmigaGuide to open and close new windows, load documents, and quit. Consider the power of this: for programs which have no on-line help but do support the execution of ARexx scripts, you could define ARexx scripts which load relevant documents into AmigaGuide, add these scripts into the program's menu, and suddenly your application has on-line help! ARexx can also perform some of the functions available to dynamic node hosts (to do with cross-referencing).

Conclusion

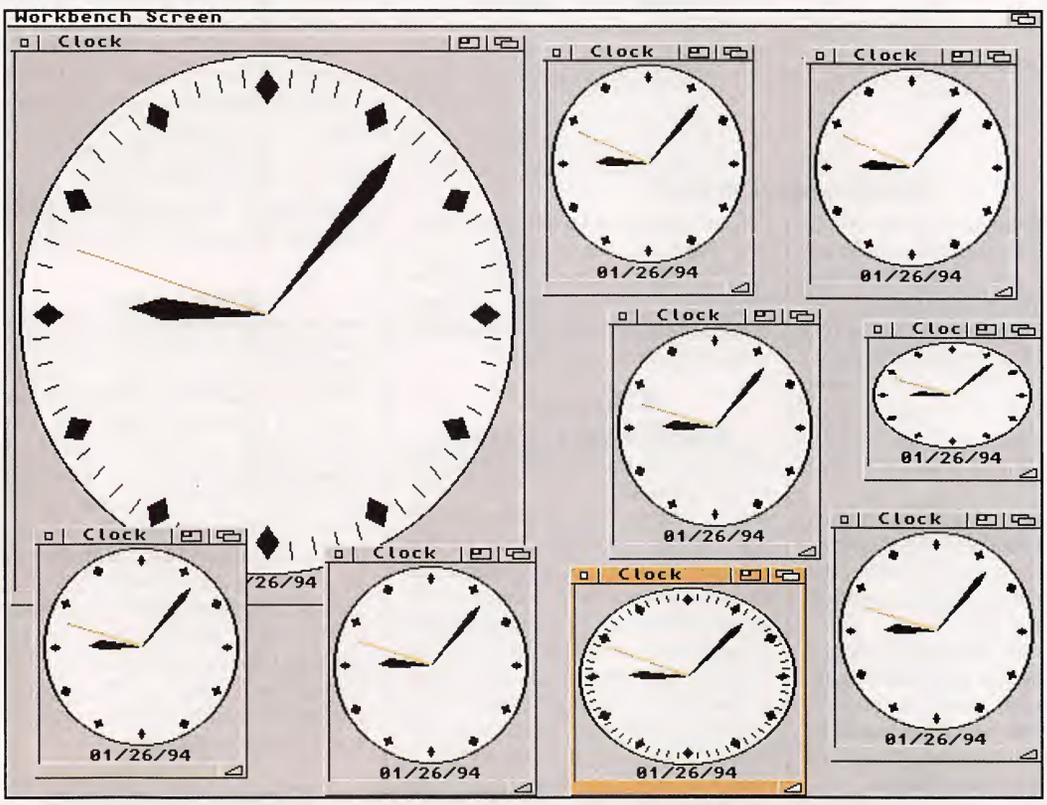
We've looked at the main uses of AmigaGuide in documentation, the structure of AmigaGuide databases, cross-referencing between AmigaGuide documents, and the powerful facilities for interfacing with applications and ARexx. Behind the simple user-friendly approach of AmigaGuide, there is a great deal of power and potential. ***AUI***

PROGRAMMING TIPS

Paul Overaa explains why a little advance calculation is often vital to a program.

Calculations, especially those involving floating point numbers, are often time consuming and Basic programmers, for instance, fequently find that such calculations cause unacceptable slowness. Luckily it's usually possible to improve the execution times of particular routines by performing any difficult or otherwise time-consuming calculations in advance and we will look at a typical scenario.

Let's suppose you were writing a stopwatch program that was to count seconds and display a second hand moving around a clock face. With every elapsed second the program would want to undraw the current second hand position, calculate the new position of the second hand, and then draw the new second hand position.



The Amiga can calculate this easily, but you can make it better

The basis of such a program would be simple: Updating a second's variable would just mean adding one to it using a statement like seconds=seconds+1. Relating the number of elapsed seconds to the position of the second hand would also be straightforward since it is just necessary to remember that after 60 seconds have elapsed the position of the second hand will be the same as the starting point (twelve o'clock).

Basic's Mod function could be used to get the position of the second hand after any number of seconds so a statement such as... position=seconds MOD 60 would be appropriate. A typical plan for a routine to perform second hand updating might therefore look something like this:

```
UpdateSecondHand:

 Undraw the current second hand position

 seconds=seconds+1

 position=seconds MOD 60

 Draw the new second hand position

Return
```

Getting such a subroutine executed every second is also not too much of a problem. HiSoft Basic, for example, provides a conditional Gosub form that can be used to force a subroutine to be executed at 1 second intervals like this:

```
ON TIMER(1) GOSUB UpdateSecondHand
```

Now all this is fine until you get to the point of actually calculating the position of the second hand. This obviously has to be able to be displayed in any one of 60 positions so it is necessary for the program to work out where those positions are on a given clock face display.

Since a complete sweep of a circular clock face involves 360 degrees it is not too hard to figure out that each new second hand position must be 6 degrees further on from the last. This information, coupled with details of the size of the circle being used to represent the clock face is (with a little trigonometry) sufficient to pin-point the locations of all of the second hand 'resting' positions. Although the display position calculations are easy enough to do they still add quite an overhead to the overall execution time of the routine.

There is a very simple trick that can eliminate this type of time penalty - you just do the calculations in advance. In the example we've used I would pre-calculate the locations on the circumference representing those second hand positions using an x() and y() array-based loop like this:

```
FOR i=-90 to 270 STEP 6

                                    x((i+90)/
6)=2*RADIUS*COS(i*DEGREES_TO_RADS)

                                    y((i+90)/
6)=2*RADIUS*SIN(i*DEGREES_TO_RADS)

NEXT i
```

Not exactly obvious code I know, but if you work out the (i+90)/6 expressions using steps of 6 within the -90 to 270 degree loop range you'll see that they just correspond to the numbers 0, 1, 2, 3, 4...60. In other words, the right-hand-side terms provide a crafty way of specifying the x() and y() array subscripts whilst the left-hand-side expressions produce the second hand position co-ordinates which get stored in the array. The result is that for any value of i from 0 to 60 the array elements x(i) and y(i) end up holding the x/y co-ordinate data for the outer-most point of the i'th second hand position.

By having this pre-calculated data available the time consuming calculation portions of a display routine would be completely eliminated. Another benefit is that the calculations only ever have to be performed once (if the calculations were made as part of the hand updating routine whilst the 'clock' was running then a repeat calculation would be made each time the second hand re-visited particular second hand locations).

The idea in general then is always to look at any real-time calculations being made in your programs and ask yourself whether they could in fact be either completely, or partially, carried out in advance. Often you'll be pleasantly surprised by the time savings that even relatively small code rearrangements can make. ***AUI***

ARexx INFO

Macro Interface Routines continued...

Paul Overaa rounds up his 'portable ARexx macro' discussions with details of the interface routines for another text-oriented ARexx package.

Over the last two issues of *AUI* we've been talking about writing 'portable' ARexx code and, as an example, provided a text block conversion macro that is able to replace phrases such as '2.00 inches' with the equivalent centimeter measurement (5.08 cms in this case). Last month we dealt with the interface routines which provided the links to Softwood's Final Copy II wordprocessor. This month we'll show you what the equivalent SAS se editor routines look like.

The aim, in case you missed the earlier instalments, is to create an ARexx macro in which the main part of the code, ie the bit that does all the real work, contains no 'application program specific' instructions. All the product specific stuff is bundled together using a set of routines whose sole job is to provide a link, ie an 'interface', between the macro itself and ARexx product which uses it. The benefit here is that to get the macro running with another ARexx application you only need to re-write the interface routines, not the whole macro.

The listing this month shows how we implemented a set of SAS se editor interface routines and you'll see that all the routines needed by the original conversion macro GetStartLineNumber(), GetEndLineNumber(), GetTextLine() and so on, have been implemented. By inserting these in place of the original Final Copy II routines it was possible to get the example macro working with the se editor without making any changes at all to the main macro code.

Now I don't want to kid either myself or you that this technique is a general panacea for all ARexx macro portability problems because it isn't. For a start this approach usually means that macros take twice as long to write in the first place. But it is useful for anyone who tends to write and use large ARexx macros and the larger the macros become, the more important the approach is likely to be. The main thing however is to be aware of the overall principles BEFORE you end up writing masses of ARexx code that may, in latter years, have to be completely re-written for another package. *AUI*

```
/* ------------------------------------------------------ */

/* Example interface routines for the SAS se editor */

GetStartLineNumber:
'BM B'
options results
'GL'
return result

/* ------------------------------------------------------ */

GetEndLineNumber:
'BM E'
options results
'GL'
return result

/* ------------------------------------------------------ */

GetTextLine:
options results
'GT'
return result

/* ------------------------------------------------------ */

/* ------------------------------------------------------ */

DeleteText:
'DE'
return

/* ------------------------------------------------------ */

MoveToNextLine:
'NL'
return

/* ------------------------------------------------------ */

MoveToBlockStart: procedure
parse arg start finish
'BM B'
return

/* ------------------------------------------------------ */

InsertTextLine: procedure
parse arg text$
text$
return

/* ------------------------------------------------------ */
```

Listing 1: Another example set of interface routines – this time for the SAS se editor.

THE PD STAKEOUT

Scoring

The marks awarded to each PD disk are based purely upon its own merits and, of course, our personal views. Value for money and reliability are also taken into account as well as features and quality of the software.

Compatibility

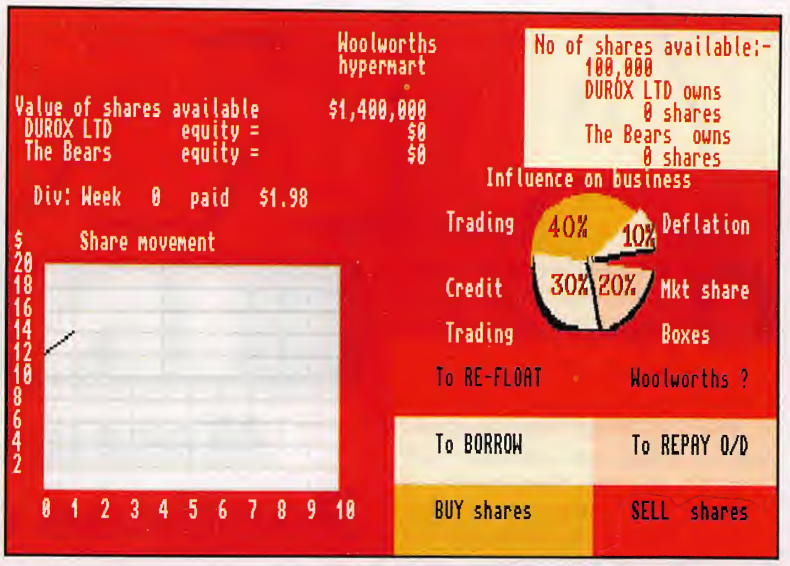
The PD disks reviewed in this issue were tested on an A500 with Kickstart 1.3. Please check with your PD supplier that the disks you are ordering are compatible with your Amiga. Amiga Plus, 600, or 1200 owners should be aware that roughly half of the software in the public domain will not work with Kickstart 2 or 3. Always ask first.

PD or ShareWare?

All freely distributable software comes under the rather deceiving umbrella of "public domain". Quite a lot of this software is, in fact, shareware. Shareware means that if you like the software, or use it regularly, the author will request a reasonable donation from £5 to £20. There is usually a note on the disk informing you if the software is ShareWare or regular PD. Whether or not you send a donation to the author depends totally upon your level of conscience and morals. Remember, if you send a donation to the author, you may receive an updated version of the software. Even if you don't receive an update, you will have given the author the incentive to continue contributing into the public domain.

THE INSIDERS CLUB

Disk GA190
Magnetic Fields



This does sound a rather shady disk. I thought it might involve Freemasons or other secretive acivity but it doesn't. It is all to do with stock market trading. It can be played as either a one or two player game. Number one plays the Stock market, and player two, an investor.

If you are playing the stock market, the object is to better your opponent by owning and controlling as many companies as possible, thereby becoming the richest player. If you are playing the investor then you have to get rich by investing (what else?).

This would be a good game to get if you were studying business and finance. I am afraid I found it all rather tedious. This isn't the type of game that you want to play after a long hard day at work. It doesn't help you relax. You have to use your brain for this and most people won't want to play something as intense. But they do say that "Business is the biggest game in town." And the Stock Exchange is where you can really get rich, so maybe it's worth a look to get in some practice for the real thing.

75%

96%

Deluxe Galaga

Disk 3035
17 Bit

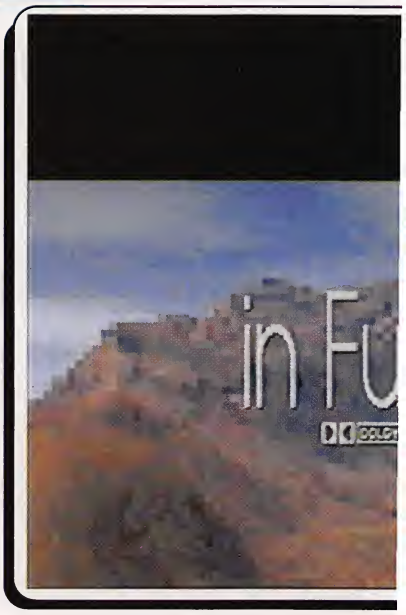
Those of you who overlooked last month's issue missed something truly special on the *AUI* Cover Disk. Deluxe Galaga is without doubt the greatest Galaxians clone ever made. The best thing to do is to order a back issue now, or if you have a CD32 or CDTV play it on this month's Amiga CD! Disk.

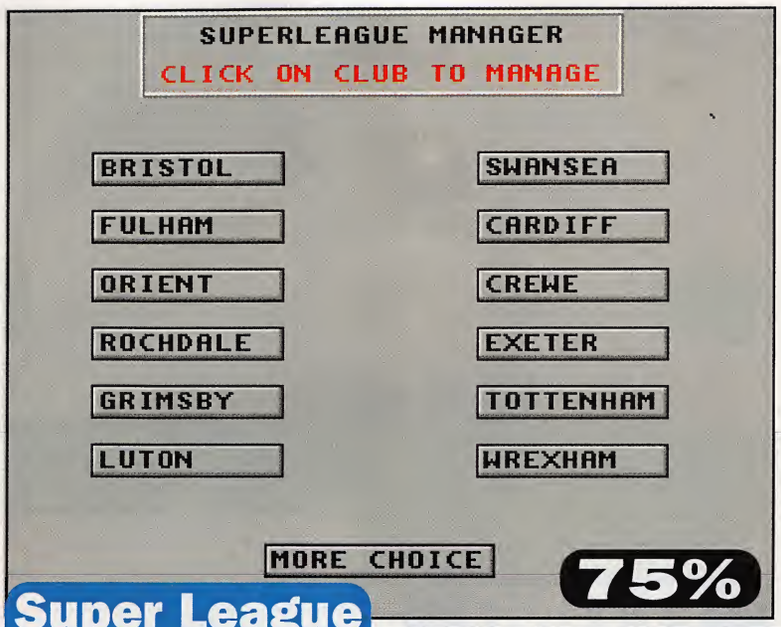
What it boils down to is that Galaxians is just souped up Space Invaders. But so much work has gone into this game and it looks so polished, it's terrific fun to play. If you played Deluxe Pac Man by the same author, also on a past *AUI* Cover Disk, you will know what to expect.

Galaga will work on any Amiga and there are enhanced versions for people who have 020/030 machines.

The most fun aspect of the game is the numerous extras you can collect to enhance your ship. These range from simple speed ups to triple shot and rapid fire. There are also some odd extras like a scanner which projects a field in front of your ship. If an invader swoops in low and runs into your field, he joins you at your side, firing when you do.

There is also a great bonus screen in the shape of a meteor storm. Make your way through the increasingly busy cloud of rock shaped graphics collecting points as you go. If you get hit by one you keep the amount of points you collected. This game could easily be Licenceware and the author could reasonably charge up to £10 for it. As it is it is, being free, no PD collection should be without it.





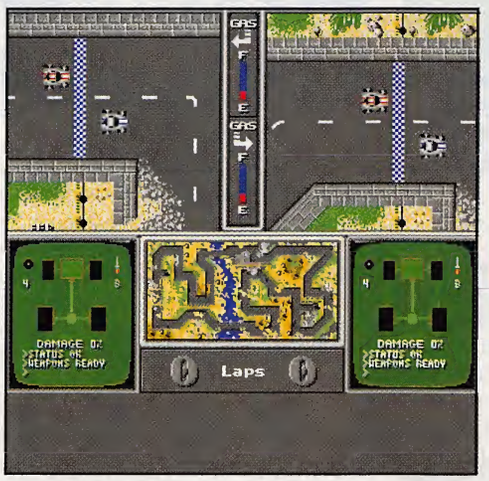
Super League Manager II

Disk PG232
Pathfinder PD

The last version of Super League Manager (SLM) was 1.26. It must have been a popular program to warrant an upgrade. The main improvement is in the screen displays which have received a total overhaul. They all have new 3D moving buttons. There are also better load and save game requesters. The old ones didn't allow you to save to different disks. The most requested improvement was an editor for team and player names to allow you to customise the game.

It is a very simple game with very few decisions to make. I don't really like football all that much but found myself playing this for hours.

When you have chosen all your players it is then time to play a match. The match in progress screen is very simple. All it displays is the current score and the time. This ticks away quickly and information on the game appears as it goes along. I really didn't know what the attraction was with managing games, and I still don't. All I do know is that this one is addictive.



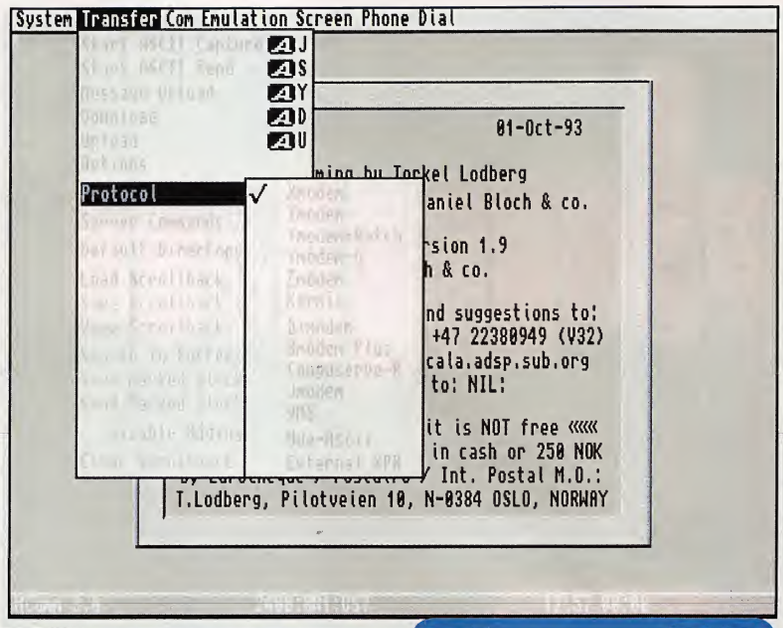
High Octane Turbo

Disk 3047
17 Bit

85%

Anyone who liked the game Nitro from Psygnosis, which came out quite a few years ago now, will love this. Why? Because it's almost the same that's why! Even the graphics are similar right down to the cars.

Some people may have seen this before in the PD lists, but this new turbo version is faster and plays brilliantly. I found Nitro extremely difficult to play because the cars were so awkward to control. High Octane plays in much the same way but things do not zip along at such a lightning pace, they are more smooth. The programming is also very professional even though AMOS was used. It just goes to show that software programmed with this package can approach the standard of some commercial games.



Ncomm 3.0

Southern Software

If you own a modem you are going to need some software to make it work. Some of the best Amiga comms software is PD. One of the most popular comms programs is Ncomm. Version 2.0 Had been around for some years, and people have been awaiting an update ever since last year. It eventually arrived in October.

From the outside, V3 looks almost the same as V2. There were, in fact, a lot of bugs in V2 and around 30 fixes have been implemented.

The major change involves the upgrade to OS 2.0/3.0. Nico Francois's excellent Reqtools.library is also supported. Ncomm 3.0. is now ShareWare as opposed to PD. This version is usable but you are unable to save the Config and Macro key settings. You will have to register it if you want these functions back!

90%

Big Time Sensuality

Disk 17 Bit

This excellent A1200 only demo comes on two disks and contains a brilliant remix of Bjork's Big Time Sensuality (the original album version, not the single version). This is accompanied by some wonderful 1200 effects such as AGA plasma swirls. It seems to be the in thing to have scaling in modern demos and this is no exception. Who knows if it is real time scaling or just an animation? It's not really important because the end results are impressive, and that's all that matters in a demo.

Vark's Utils No. 4

Disk 3058
17 Bit

Where The Assassins seem to be THE people who are known for compiling small PD games, Vark (whoever he or she is) is known for compiling PD utilities.

Vark has managed to cram twenty seven utils onto one disk. They are all crunched and most of them have documents.

If you keep up-to-date with utils on bulletin boards, then the programs on this disk may seem a little old. Disksalv2 is rather old but it hasn't been updated for a while so it's still the latest version. Other well known utils include BigAnim, Virus Checker V6.34,

and Powertracker. There are a few utils which I had never heard of. These include, an AGA version of QuickGrab, BadFormat, which makes use of disks with R/W errors, and Recover, which retrieves recently deleted files.

66%

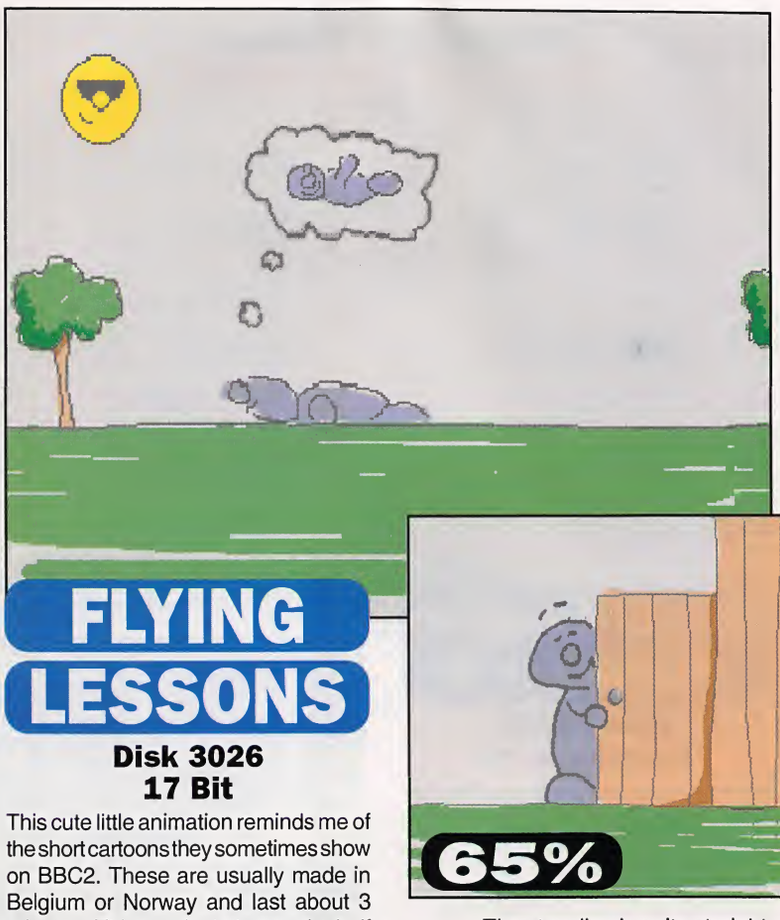
FORTY THIEVES

Disk G042
Roberta Smith

People who use computers at work always seem to be busy using them. But are they always doing what they are supposed to? People who use PC's will probably have Windows running. In which case they probably have access to a game called Solitaire, sometimes known as Patience. This game is built into Windows and is a worryingly addictive card game. The Macintosh has something very similar and that is what is on this disk.

It is played with two packs of cards. The aim of the game is to place all 8 suits into piles, in order, at the top of the screen starting with the aces. As in both the MAC and PC versions, cards are moved by simply clicking on a card and dragging it to its destination. There is a very good hint feature built in. When enabled the mouse pointer will give you a thumbs up sign when you place it over a card that is usable. If you use an Amiga at work then this is the game to bring into the office, but don't get caught!

78%



FLYING LESSONS

Disk 3026
17 Bit

This cute little animation reminds me of the short cartoons they sometimes show on BBC2. These are usually made in Belgium or Norway and last about 3 minutes. This one lasts two and a half minutes, comes on one disk and has no sound. This might sound pretty awful but it is quite amusing to watch.

The small character is very crudely drawn and the outline of him moves with every frame. This reminds me of the cartoon Rhubarb in which the same thing happened.

The story line is quite straightforward. Bob (the character's name) dreams of flying and so tries various things to achieve this. He ties himself to a rocket, and to a lawnmower to get up enough speed, but nothing seems to work,. In the end he fails. The animation is good, and the jerky style works very well.

65%

Icon Editor

Disk U810
NBS

I have never really had the time to create my own icons. Or is that "couldn't really be bothered"? The only time I have used IconEdit on the Workbench was to change a particular icon from a project icon to a drawer icon because I liked the graphic. This new editor contains a lot of useful features. And I may just be tempted to use it.

There is a large window in which your icon can be edited. This has a scroll bar along each side for really huge images. You can load other icons into the package and also import IFF pictures in to edit. If the icons are too big then they can be scaled down to any size. There is also a zoom function to add fine detail to your image.

The version of Icon Editor on this disk is a full working version. No functions have been disabled. "Oh great!" you say, "I'll buy one!" It is shareware though and the author has made life difficult for you. When the program starts, two requesters appear which stay on the screen for thirty seconds each. This is highly annoying and rightly so! It will encourage people to buy a full working copy.

79%

Hoi Demo III

Disk NBS

This three disk demo is from the same people who brought out one of the first AGA demonstrations, Team Hoi. There are some nice new effects. The first is a travel through a maze. Yes, I know you probably have seen this before, but this time you can control the size of the screen. The bigger the size the more jerky the journey.

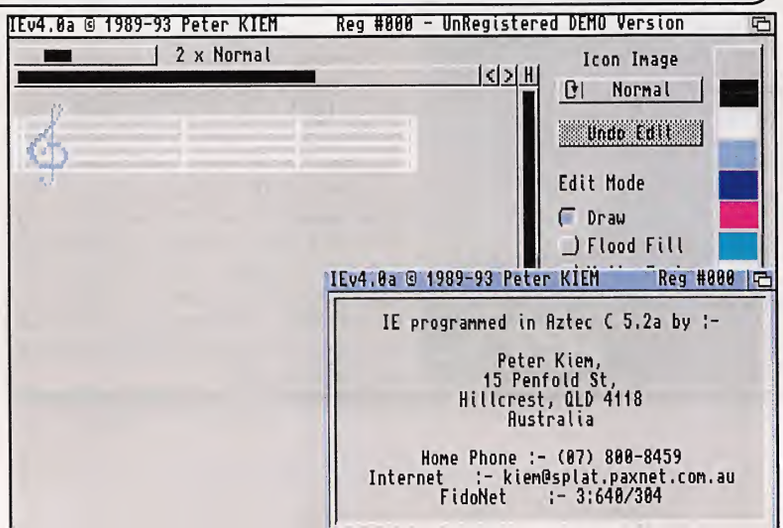
The next part involves a small man on a jet pack flying over the surface of a planet. The effect is quite stunning, it is a bit like the game Space Harrier only more impressive. The texture mapped surface makes you quite dizzy.

There then follows a quick slideshow. The pictures themselves are quite good although it's the varying screen wipes that make you go, Wow!

What follows next can be described as a bit of soft porn depending on your point of view. Two very pixilated, very undressed young ladies are displayed. They are then rotated around and certain bits are then zoomed in on.

This is an excellent demo, which is let down by a slow disk loading process and AGA only status. It is well presented though and contains some excellent music.

75%



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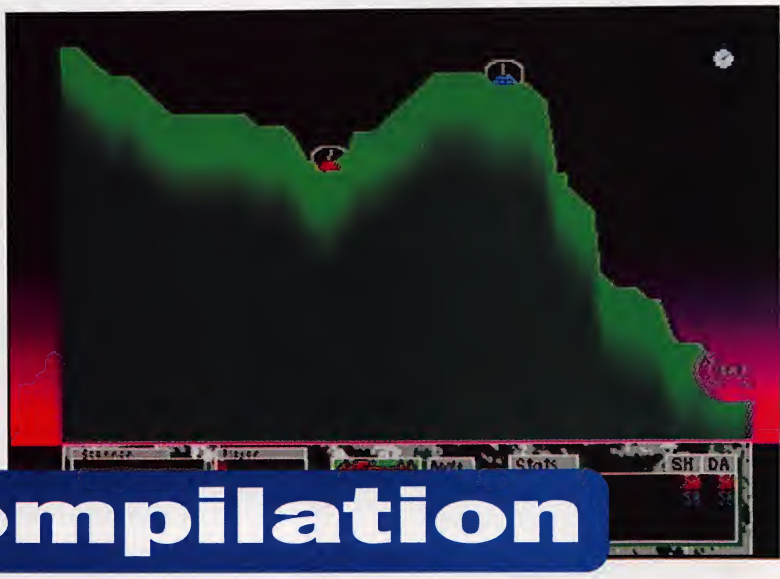


Games Compilation

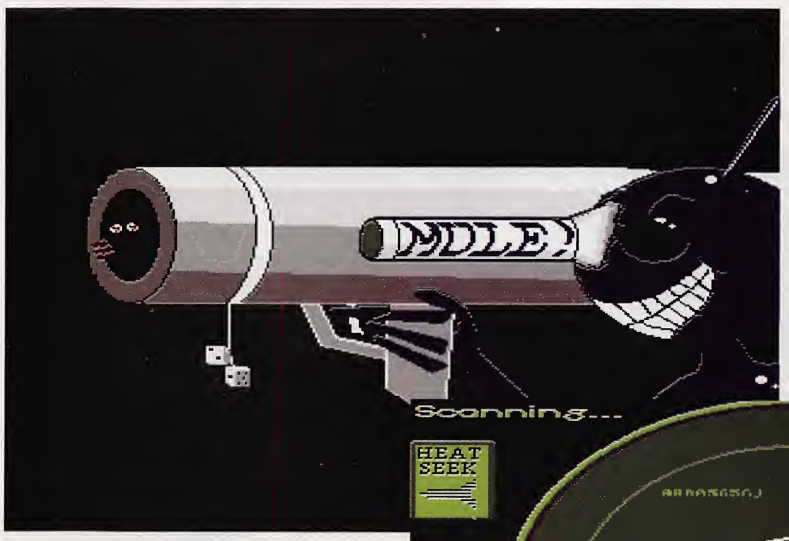
Southern Shareware

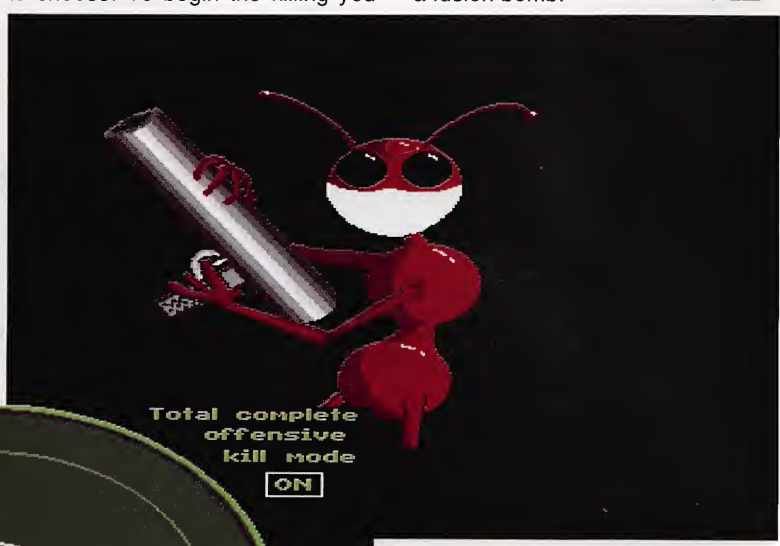
There are only two games on this disk but they are both excellent. Dogfight is essentially the game Biplanes (which was on a previous ***AUI*** Cover Disk) with a few extras added. It is a two player game in which you each control an aeroplane and the object is quite simple; to blow each other out of the sky! This is easier than you think, as at first it is very difficult to play.

If you cannot take off properly you will be reduced to a pile of scrap metal. When you eventually get into the air, you can have great fun zooming around the screen destroying your opponent who probably hasn't been able to get of the ground yet!

The second game is even more fun. Called Scorched Tanks, it is based on a PD game on the PC called Scorched Earth. It is a tank warfare game where 2-4 players take turns buying weapons and shooting them at each other. Before you start the killing you have to buy your weapons and there are heaps from which to choose. To begin the killing you have to first select the angle of trajectory for your weapon to take. Then choose the speed, and then fire, and then, you hope, BANG! It is great fun to play and you get enormous satisfaction at seeing your opponent melted away by a direct hit from a fusion bomb!

80%





ANT WARS

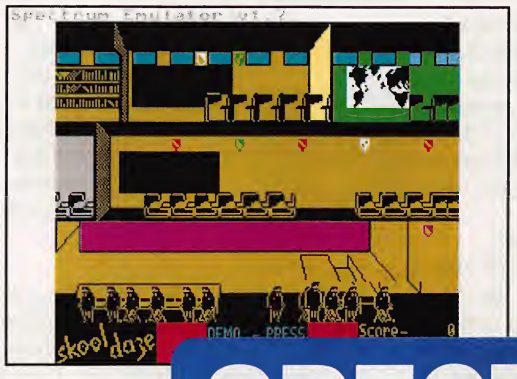
This funny little game has been influenced by a number of other games, but it is hard to pinpoint which one. There is definitely Lemmings in there somewhere because it involves destroying small insects, namely Ants. Although the graphics are a bit amateurish, the game isn't all that bad.

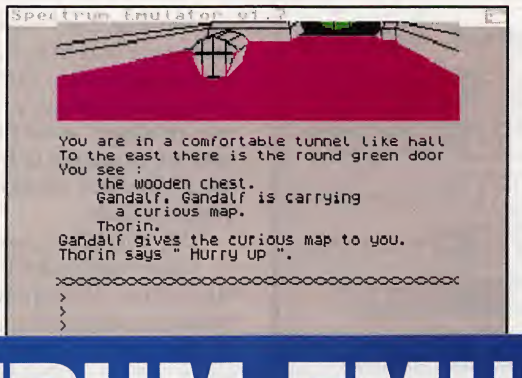
Disk G390/1
NBS

This is a result of about 10 months of work from the author. It is quite sick in parts with lots of insectoid blood splattered around the play area.

Your ants can be dispatched from their base and can be moved along the ground until they run out o move points. These move points can also be used to fire your bazooka a any enemy ants which happen to b passing. When hit by your flying rocke the enemy turns into what can only b described as dogmeat. You keep o doing this until you win. Ant Wars i well programmed in AMOS and con tains some good animations.

75%





SPECTRUM EMULATOR

Disk EM416
Deltrax PD

95%

I didn't own a Commodore 64 I am sorry to say. I did, in fact, invest in a ZX Spectrum. Not just any Spectrum, I had the best one, a rubber key 48K model. Not the inferior 16K one my friend had. I was amazed recently to find a Spectrum Emulator in the PD. It didn't come with any games. I was even more amazed when I found out that you could actually load games from tape into the emulator. You did this via the use of a sampler. Yes, a sampler! This cannot possibly work, I said to myself. There was only one way to find out!

I got out my old WHSmith Data Recorder, (Yes, WHSmith actually used to make tape recorders or at least badge them. How many people remember that?) and plugged it into my sampler. I then loaded up the emulator, typed in LOAD "", put in my favourite game Quazitron, and pressed play. It worked!

After loading is complete you can save the game to disk and load it up any time. Even the sound is emulated. I was worrying about copyright but it seems that it is OK to load games that you own, although there are lots floating around on different bulletin boards, and there's even a Spectrum Emulator out for the PC.

This one for the Amiga is well worth getting if your Spectrum has desintergrated as mine has, and you still long to play those old classics.

A64 V3

Disk 3072 A/B 17 Bit

How could I review a ZX Spectrum emulator without trying out a one for the Commodore 64? Well, the 64 version is a little more complex. I think a lot of time and effort has gone into developing this program and you will need an extra piece of hardware to load in any games. This will connect to your C64 Disk Drive. Then all you do is type, Load "$",8,1 (bring back any memories?) and this reads what is on the disk.

Once the programs are in memory you can then save them to your hard drive to load up any time you want. There is also a built in program monitor which allows you to disassemble and alter what is in memory.

It is a truly first-rate package, but a bit pricey. The program comes on two disks without the cable and these are normal PD prices. If you want the cable, it is available from Deltrax PD at £54.99! I am afraid it's a case of try before you buy!

80%

CONTACTS FOR PD REVIEWED IN THIS SECTION

Deltrax PD
36 Bodelwyddan Ave
Old Croydon
Clwyd LL29 9NP

Roberta Smith DTP (PD)
190 Falloden Way
Hampstead Garden Suburb
London NW11 6JE
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17 Bit Software,
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West Yorkshire WF1 1DH
Tel: 0924 366982

If you have created a masterpiece and you would like it reviewed here or if you own a Public Domain company and want to contribute new and interesting PD, please don't hesitate to send it in. The address is:
The PD Stakeout
Amiga User International
48/52 George Street, London W1H 5RF

amiga answers

OS

Dear *AUI*,
I have an Amiga A500 with a GVP HD8+ SCSI hard disk attached with 5 Megs of RAM. I have a triple ROM switch with V1.2, V1.3 & V2.04 Kickstarts. I also have a Power XL HD Drive.

OK, now to my problem I use the XL drive for transfering files to and from work. (I work for IBM and use a PC Yuk ! all day.) It has got to the stage that I have so many files to xfer that I am using lots of HD floppys and it takes a long time to xfer the files from PC to floppy and then from floppy back to Amiga.

What I want to do is attach a 160 Meg SCSI Hard Disk formatted on the PC to the SCSI interface and get the Amiga to read the files to the Amiga's Hard disk.

I have asked lots of people and companies and some say "No way". Some have suggested a PC emulator. I tried just attaching the disk to the Amiga last night and it didn't even see it !!

A friend of mine said that I need an entry in my mountlist to mount it and then just use Crossdos to read the files like from the HD drive?

Can you tell me how to make a mountlist entry? Or another way to get the Amiga to recognise the PC disk and xfer the files.

Thanx in advance

Leonard Costa
(via Email)

Dear Leonard,
I doubt very much if you will get a PC formatted drive to work on the Amiga, but it is worth trying. You make a mountlist in the same way as any other device that needs mounting. Look in the devs/mountlist file of your Workbench disks for some examples.

Here is a mountlist for one of my partitions when I was using the non automount system:

```
*Name:  *Device = hddisk.device
* Unit  = 4
Flags  = 0
* Surfaces  = 6
* BlocksPerTrack = 34
* Reserved = 2
* Interleave = 0
* LowCyl = 2
* HighCyl = 200
Buffers = 30
Stacksize = 4000
GlobVec = 1
* FileSystem = I:FastFileSystem
* DosType = 0x444F5301
#
```

You will need to check or edit everything I've marked with a asterix (*)

The first thing I would ask is why are you transferring so much data? You might like to think about that side of things first. Have you tried compressing the data with zip or Lha, both are available for the PC and Amiga.

I use the A2091 in my A2000 and I have 6 SCSI devices attached, without any problems. Have you tried the GVP version of HDtoolbox to see if it can see the drive? It is possible that the IBM drive may be a little 'odd' in how you connect it. That is a feature of some IBM equipment, as I'm sure that you are aware. Other than that you will have to carry on as you are I'm afraid.

Answer Types

APPS	Programs etc]
VIDEO	Video related problems
COMMS	Communications
PROG	Programming
OS	Operating System
PRINT	Printer Problems
COVERDISK	Cover Disk problems
OTHER	For Anything Else

VIDEO

Dear *AUI*,
Before putting my question to you, I would very much like to thank the *AUI* team for giving us such a high standard of magazine for so many years. People who are new to the Amiga range often fail to realise that the Amiga dates back to the mid 80s. I have owned an Amiga since day one and remember a time when there were less than twenty of us in the whole country. At that time I was very grateful when your magazine was released, even though it was very much geared to the US market then. May you continue for many years to come.

OK, here's my question:

I now own a A4000-030 with a Microvitec Multisynch Monitor. When running any type of software on the machine, the display is always offset. DPaint places its Screens in the top left hand corner of the monitor screen, but leaves a one inch gap on the right hand side. Amos is even worse. This opens the Editor screen in the right position, but when screens are opened for your programs, the screen display is placed up to two inches to the right. The problem is that Screens of a normal size:

320X256 Lowres
640X512 Hires

do not fill the entire Screen display of the monitor. This makes the display both messy and hard to work with. Answer printed in another magazine was to Boot Up using ECS, but it makes no difference. Changing the Overscan values also makes no difference. At the moment I am developing software for a company in London and I need to display Screens in a way that I can fully understand how they will appear on other monitors. At present I have had to put the Multisynch on one side and have had to revert back to my trusty old 1081. What's the point of paying over four hundred pounds for a monitor that gives outstanding results, if I can't use it?

I have written (as many other Multisynch users have) to other magazines many times during the year, but as yet NO full answer has been given. They all state that this is a new problem to them and I just can't believe that!

I would be VERY, VERY grateful if you could solve this problem for me. This problem doesn't even appear when used with the A3000. Why not?

Also (if I can sneak it in) do you know of a company that pro-duces an Anti-Flicker card/chip for the A4000, as Amos can only display 640X512 Laced Screens with flicker, as it is not as yet AGA compatible? Again the A3000 is fine!

Steve Bennett
West Midlands

Dear Steve,
I can understand your frustration with this problem. It is not easy to solve directly. The problem is that the monitor selection is now so freely configurable that it can be a devil of a job to get all modes agreeing with each other.

The first this to do is to clear out all of the monitors in the monitors drawer, put them into the monitor storage for a while.

Just put the driver for the monitor that you have in the monitor drawer (Multisync in your case). Also put VGAonly in the monitor drawer. VGAonly modifies some of the monitor settings to make the modes a little more compatible with VGA type monitors.

The next thing that you have to do is go through the various display modes that you will be using and set them up for size, colour, etc. You will also have to set up the overscan preferences for each display mode setting. This is a long and tiresome job, but once done it should help you to get things in alignment.

I don't know of a flicker fixer for the Amiga 4000, but the display hardware should be well up to the task of doing the job anyway. It means that Amos needs to be persuaded to use the new screen modes. There are a couple of utilities that you might like to try. Prom104.lha is the archive of a mode promotion utility that may help. There is also a new set of monitor drivers called 1942setup.lha particularly for the 1942 monitor, but worth trying on other monitor setups.

The last thing that may be of interest is moned2.lha. This is a monitor editor, that enables you to tweak the timings of the monitor drivers. Be warned that some monitors do not like having the wrong timings and this can possibly do some damage.

These programs should be available from you PD supplier, CIX, or AmiNet

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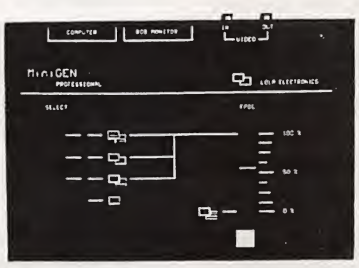

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AUI ANSWERS

VIDEO

Dear *AUI*,
Fairly recently I bought an Amiga A1200 and Deluxe Paint IV.

As my main reason for the purchase was to generate graphics and titling for video, I was looking forward to using the impressive fonts that were supposed to be found on Art1 and Art2. The Figure 8.13 on page 201 of the manual shows a fonts requester displaying SAPPHIRE, SWISS, TIMES, and ZACK. Page 57 of the manual shows the same font requester and page 58 mentions a font called ChiselScript and Karafonts; on my disks they just do not exist and when I asked Electronic Arts they were most unhelpful.

Also, I find that after Deluxe has been in use for about 15 minutes, I cannot get any accuracy with the 1 pixel brush, it jumps about 4 pixels either side of where I intend it to paint. At first I thought this could be the fault of the computer, or even the monitor, but I find that the PPaint program given away free in your February issue does not suffer from this fault. Your advice and comments would be most welcome.

C.A.M.Aitchison
Glasgow

Dear C.A.M.Aitchison,
Are you sure that you bought DPaint IV, you should have bought DPaint IV AGA for use with the A1200.

Karafonts are on Disk 1, of the AGA version of DPaint, and need to be unarced. The installation utility will do this for you. I expect you answered "No" to a requester instead of "Yes". I can't help more than that as you have neglected to tell me your system setup! I know it is a 1200, but what else? Hard drive maybe?

The other fonts you see are just what happen to be in the Amiga FONTS: directory. Sapphire is a standard Workbench font, as is Times. Have a look on your Workbench fonts disk for a few surprises!

I'm rather concerned about your other problem. It could be the Amiga still, as no two programs will use the Amiga system in exactly the same way. Strip your Workbench down to the bare minimum and see what happens. It might be that a program that you have running in the background might be upsetting something. Personally, I have found that the AGA version of DPaint IV is not as stable as it should be, but I have used it for many hours without seeing the effect that you have noticed. If you do have the non AGA version of DPaint, then that will also explain why things are a bit unstable.

OTHER

Dear *AUI*,
After months of researching computer systems: MAC, PC and AMIGA, guess which one I opted for. Got it in one! I did not even consider the Atari range - especially the dodgy Falcon. However, to my horror (glancing through Atari User), it seems that the Atari has the ability to "AVP" and the extremely versatile AMIGA cannot. What is AVP and why can't the AMIGA do it?

Second of all, what do you think of the 64bit Jaguar? Can it really knock the spots off CD32?

What I can't understand is why didn't Commodore design the CD32 for use with the A1200 & 4000? Macintosh have their CD as does the PC. A CD system was promised for Christmas '93 - but nothing happened. I feel left out. Still, I can't help feeling that Commodore has something up their sleeve. I want to see Commodore on top where they belong - then again after their dreadful advertising campaign for CD32, it's a wonder that they haven't gone bankrupt. I don't need to tell you about the amount of talented AMIGA artists out there - someone ought to tell Commodore!

It warms my heart to see that *AUI* uses Amigas to make this magazine, I noticed that everything is mentioned apart from the program used for page layout. What is the secret? I have an A4000 030 and I'd like to get into DTP, a lot seems to be unclear concerning that aspect of the AMIGA. For example, if Pro Page 4.1 is capable of achieving professional results, then why isn't it being used - especially by other AMIGA magazines? These mags sing the Pro Page praises: "It's easy to use... "It's powerful...", "It handles colour separation... , etc., it turns out that they use Macs - I don't get it! Me, I'm holding out for Pagestream 3, any news on that? Can you PLEASE demystify the wonderful world of output bureaus, is there one in London? What is JCL's ColourPic Plus & Cabaret? I am a total stranger to computers, I'd like to see more on this subject please.

Lastly, why has the A1200 benefited from all these powerful acceleration peripherals and can the A4000 be upgraded to 64bit?

Simon Sudopi
London

Dear Simon,
Remember this is Amiga User International, not Atari Misuser. You tell me what AVP stands for and I'll tell you if the Amiga can do it.

*To repeat myself, this is **AUI** not an Atari mag. I have no opinion of the Jaguar. All I will say is that bits don't make machines. The Amiga is a collection of very powerful processors, note the plural, the 680x0 is only one of several processing elements within the Amiga and as such the number of bits is no indication of the power of the computer.*

Commodore have promised NOTHING so far. Commodore don't give out this information because they know that in the world of computers, production needs can change at a moment's notice. There have been several announcements that some devices will become available but I don't know what format they will take or when. You will just have to wait. (As will I, I want a CD32 for my 4000 too!)

If you want CD drives NOW, then they are available, they are normally SCSI and will read most CD Rom disks. More importantly, as you can see from last month's Newsfile, there is now a CD drive for the A1200. At last.

Commodore's advertising campaign was marvellous! At least you saw some adverts! Seriously many people complain about the advertising, but if you believe the press releases Commodore can't make CD32s or A1200s quickly enough. They have also been in business a VERY long time, which is more than can be said for some companies. I will be the first to admit that Commodore have had problems and they still do in some areas but they must be doing something right.

*The final output of **AUI** is largely done using Amigas and with MACs controlling the film element, much to the Editor's annoyance I might add. It's a commercial fact of life; the Mac is the most common tool for driving the big output devices that a magazine like **AUI** needs. The DTP programs that drive these big output machines are not available for the Amiga and the programs that are available have not developed to the same degree - yet - maybe one day. A little while ago we did produce a supplement in **AUI** that was completely done on the Amiga and that worked quite well, so there is hope.*

There are dozens of bureaux in London, just look in business pages or even in the small ads!

What do you want to know about?

*As for the ColourPic and Cabaret, well I'm going to be a little hard on you here. Try looking at JCLs advert on page 56 of the Jan 94 issue of **AUI**. The advert is very detailed and tells all.*

I don't understand the last part of your letter. The A1200 has the accelerator products because the users want them. Do you think that there should be none or what?

As there are no high performance cheap 64 bit processors about at the moment, the answer is NO. The A4000 is a 32 bit internal architecture and would not get the benefit of a full power 64 bit system. You will have to wait for the next generation of Amigas, or perhaps the generation after that.

OTHER

Dear *AUI*,
I currently run an A600 with 2MB RAM and an external drive so this question could seem a little strange. Could you help me in my quest? I wish to resurrect an old 1983 C64, yes a C64, I just can't let the poor thing die.

If you ask it to do anything it sticks its thumb in its mouth and goes Drrr my brain hurts. It doesn't appear to have any chip RAM spare to run a program yet the screen prompt is OK.

I do have a set of new memory chips but none of the numbers match the ones in my machine. I have checked a friend's C64 and none of his chip numbers match with my C64's or with the new chip numbers.

I'm not too bad with a soldering iron and to make things easier have a set of chip carriers for the board.

Here is a list of chip numbers from my C64:

/B8412 MM2114N-25L
7711 1784 7708 1584
MCM666 AQD8413 - EIGHT OF

SN7 4LSO8N RQ8417E
7707 1484
Two OF

P8340
CD4066BCN
MM5666BN
NB74LS258
8412M46
414X SN74LS373N ,
556PC
8416

Here is a list of the new memory chip set:

KM4164B-12 851C -Three of
KM4164B-12 016C
KM4164B-12 901C -Two of
KM4164B-12 847C
KM4164B-12 016C

Please help match the corre sponding numbers and save an ol timer from the scrap heap, the C6 that is.

T.Dangerfiel
Not

Dear T.Dangerfield,
It's been a long time since I had the off a C64! But they are fairly simp devices compared to the Amiga. I ju wish that you had been as precise w

the fault symptoms as you have with the chip numbers. Most of the numbers on chips are production codes, the memory chips that you list are MM2114N-25 all the other numbers are the production codes.

However strange as it may seem, I think that you may have a problem somewhere. The memory chips that you have quoted MM2114 are far too small. That particular chip is only 2048 by one bit (from memory, its a very old chip) 8 of them would give you a total of 16 Kbytes.

The chips that you have as a spare set, 4164 are each 64k by one bit and are the correct chips for the C64 memory. The memory positions should be marked U9, U10, U11, U12, U21, U22, U23 and U24 on the PCB.

If you can, I suggest that you get hold of a copy of the Commodore 64 Programmers' Reference Guide, ISBN 0-672-22056-3, as that has a circuit diagram of the C64 in it and you will find that most helpful.

OTHER

Dear *AUI*,

I have a few questions I would like you to answer.

1. I recently bought a printer off my brother-in-law and I am not sure which driver I should be using. At the moment I am using the EPSON Q driver. It seems to work OK, but it does have its problems with printing out graphic. The make of the printer is a SHINWA A-V 8052, but on the front of it there is another number WM100.

2. If you cannot help me, could you tell me who to write to for help?

3. Why haven't you answered my previous letters.

4. I recently bought the A1200, which I think is an excellent machine compared to the A600 I've had over the last year. Is it possible to link the A1200 to the CD 32, because judging by what the mags are saying Commodore have dropped the idea of making a compatible CD to concentrate on the new spec machines. If so do you think the PC lovers are going to have the last laugh again. I have a funny feeling that Commodore are hiding something from us, because I have heard they are going to drop the price of the CD32 late this year to £199. What is the point of coming out with a CD drive that cost £100 more than the CD32?

5. I recently started a course in computer applications working with the old PC and I must say they are a load of st compared to the A1200 operating system and there is a lot of other areas where the A1200 is better.**

6. I am having some trouble with Coverdisk 28 seekspeed. After I have decrunched it on to a disk then run it, it appears for 2 seconds then it's gone I have tried everything to get it to stay on screen but with no luck. Please help.

7. How do you decrunch programs to disk? If I decrunch to RAM it works OK but I am getting fed up with taking it from there to the disk. Please could you explain the full procedure ie disk name empty draw name utilities.

Antony Hinks
Portsmouth

Dear Antony,

The Epson Q driver is for 24 pin Epson compatibles, Epson X and Epson X old are for 9 pin Epson compatibles. Use whatever suits your printer. The other place to write to is the printer manufacturers. However they are not likely to help with computer specific problems.

*What previous letters? I have searched a whole year's worth of Amiga Answers and I've not have a letter from you before. You have not addressed your letter to any particular section of **AUI**, so it may never have been sent to me. PLEASE address your letters to the correct departments. If you are making several points to different sections, DO NOT put them on the same sheet. Use two sheets of paper and address each one to the correct section. I'm sorry to say this but in a busy office a letter may get processed by someone who does not realise that there are other points to be answered by other sections.*

We are normally pretty careful with letters, but sometimes things can get lost. I have said this before, I answer ALL letters I receive without fail.

It has been possible to connect CD ROM drives to the Amiga for years. They are just rather expensive. Some CD Rom drives use the SCSI interface. Since the A2000 there have been SCSI interfaces for the Amiga. A simple connection and a software driver and you can read CD ROMs.

I would like to see an add on for the A2/3/4000 as the convenience factor would be worth a few extra quid. However it has been possible to connect the CD32 to any Amiga almost since it hit the shops. You need a small interface unit and a software driver. You need the CD ROM with the driver on it!

*Give Brian Fowler computers a call about this... Where did I get this information from? Try page 71 of the March/April issue of **AUI**!*

I don't understand why PC lovers will ever have the last laugh what's it got to do with them?

Remember that the PC is crippled by a very outdated operating system. Everything that the PC does has to be done in the 640K memory range, unless special drivers are used. If you load a good OS onto the PC then things improve dramatically. MS-DOS is MS-Dross, I'm afraid. That's the reason why Microsoft have spent so much money developing Windows NT, it is a complete replacement DOS that will use the full potential of the intel processors. Only time will tell if NT catches on, it does require a lot of hardware resources to run at the moment.

I am normally able to show any PC user up with the productivity achievable with the Amiga, but the PC is a business standard and that's what most software houses develop for.

I'm not surprised you are having problems with seekspeed on disk 28... It's on disk 27!

Also it is not crunched, What on earth are you doing? I click on the icon and I get the control window up.

Decrunching to a disk... read the docs with Lha.

HINT: type Lha?

OTHER

Dear *AUI*,

In future I would like to get a Amiga 4000T and I would like to know it if it going to work on an Amiga 4000T.

1. What about a Monitor Philips 0.26, 1280*1024, is it going to work on a Amiga 4000T?

2. And what about HP-Jetstore 5000 Model, but what is HP Jetstore 5000?

3. For instance I would like a printer that does do excellent work and I scheap for parts ink or laser and so on.

a. I would like very good colour.

b. Graphics

4. So but I would like to buy a disk drive with built in protection against virus (single or double decked)

5. I'm a beginner on computers and I would like an Amiga and I'm happy to have an Amiga computer.

6. I would like to buy a Amiga, so I don't have to buy the hardware that I don't have to extend for years. Or what kind system would you recommend buying for the money?

M Bobanovic
B.C. Canada

Dear M.Bobanovic

I'm going to have to do some guessing with your letter!

The 4000T might take a while to get into the stores and even then I expect that you will have to go to a specialist dealer to get one.

The monitor sounds good, but you have not given me enough information. You need a true multisync monitor to make full use of the Amiga display modes.

The Jetstore 5000 is a printer, contact your nearest HP dealer and they will be able to give you the sales leaflets and maybe some example printouts. Be warned, I've not seen a specific printer driver for the Jetstream.

If you want color and graphics then the cheapest method is a color ink jet, say an HP or Canon device.

Forget hardware virus protection, it is a bit too specific and will only stop a small number of virii. A good anti virus software package running all the time is a better bet. Anyway providing that you know where your disks come from and that they are not used for pirating software it is rare to come across a virus. In all the years that I have been using the Amiga I have only come across two.

I can't answer your last point at all. I have no idea what you want to do. The A4000 is a very nice machine, but if you only want to play games and dabble in computing then an A1200 is a cheaper path to follow. However, it is nowhere near as expandable.

COVERDISK

Dear *AUI*,

I bought the *AUI* and the Amiga Format magazine with your cover disks which you say are muppet proof! Here I am to prove you wrong!

I got an Amiga for Christmas so I am fairly new to all this and I just can't seem to get into to disk. The paint program looks absolutely wonderful, it's just so frustrating that I can't get it to run, what I really need is some help!

Can you recommend a disk that will inform about all the bits I should really already be informed about so that I can understand the magazines and the manual i.e. what to select in what order?

I'm not very computer minded, but I would like to get into them. At the moment I have a massive culture shock so please be gentle with me as I just need a few basics to get me heading in the right direction

Ian Pammagl
Suffolk

Dear Ian,

Firstly I hope I've read your name correctly, as you are a beginner I think it is time for a reminder of how to write to Amiga Answers.

1. Give your name (and PRINT IT PLEASE), it is not nice writing back to someone who is anonymous.

2. Print your address clearly.

3. You may give your telephone number, I don't normally answer queries by telephone but sometimes it can be useful if I can contact you directly.

4. State which Amiga you have.

5. Which version of the operating system, Workbench and Kickstart.

6. Which peripherals you have fitted,

extra drives, hard drives, modems, printer etc.
7. IMPORTANT BIT THIS HERE! A clear description of the problem.
8. Make sure I can read your letter. I prefer letter quality printed output, but plain dot matrix is fine. If you do send in handwritten letters make sure I can read them. I don't care about the quality of the English or grammar, providing I can read the letter and understand the problem, that's all that matters.

*It is a little difficult for me to say where to begin, as I don't know which system you are using. Amiga Format is nothing to do with **AUI**, so I can't help there. The Amiga is the most complex home computer generally available, FAR more complex than the IBM clones, but a good deal easier to use.*

It is unfortunate that you have come across decrunching problems so early in your Amiga 'career', but these things do happen and lessons can be learned from them. The Paint program, well it is VERY VERY good. I'm not an artist and I have remarked several times before that if you want one oblong(ish) box sitting on top of another oblong(ish) box, then I'm one of the world's best at that. I'll even fill the box with a nice solid colour. It makes me feel rather sick when I see someone create a real picture with one of these packages.

We have published a step by step guide on the Coverdisk pages to sort out the decrunching of PPaint. There is also another letter in Amiga Answers on this matter, where I have reproduced the guide.

I don't know of any disk-based training packages, but the Bruce Smith Book "Mastering Amiga Workbench" (ISBN 1-873308-08-6) is just what you need to get started. As with many things the real teacher is time and you will need a lot of time to master the Amiga. The basic operations are very easy, especially if you are using Workbench 2 or greater.

The most important things to find out are:

How to copy your Workbench disks. YOU MUST NEVER run the Amiga from your official Workbench disks. The only time you should use them is to make a backup of them and then you should use the backups. I go one step further, and make a backup of the backups and if I mess up the working disks I recreate them from the first backup set. With very important operating system disks I think this is time well spent.

How to copy disks in general.

How to move files from one drawer to another, even if they are on different disks.

How to view all of the files, even the files that do not have icons.

How to delete files.

COVERDISK

Dear *AUI*,
I have owned an Amiga A500 computer for several years and am very pleased with it. On the odd occasion, I make a foray into the computer magazine market, often tempted by the Cover Disk on offer. A few days ago, I purchased the February issue of your magazine, being especially interested in some of the programs offered by the Coverdisk (No.32). I was particularly taken by the fact that a caption concerning the installation of the disk stated "The installer is totally muppet proof".

So, blissfully happy, I returned home, booted up and tried, having read the instructions, to install the programs. Many frustrating hours later, I have to conclude that I am not a muppet, as I have failed to install any of the programs, although the disc seems to run properly.

My computer uses Workbench 1.3.2, memory expanded to 1MB and I have an external disc drive, but no hard disk.

I have tried to install the programs by:
1. Booting up using Workbench, installing the programs on a formatted disc and copying the libraries to Workbench. Unsuccessful as the Workbench disk does not have room for the libraries and programs did not install on the formatted disc.
2. Booting up using Workbench, installing programs and libraries to Workbench. Unsuccessful. No room.
3. Booting up using the Superdisk. Installing programs on formatted disc, libraries to Workbench. No room on Workbench. Programs failed to install.
4. Having booted up, installing programs and libraries on RAM. Successful, but when I tried to run the programs, I was informed that there was insufficient memory.
5. Having installed the programs on the RAM, I have tried copying them onto disk. This seemed to be successful, but when I tried to run one I was informed that there was an error whilst opening (205 Or 212).

Not being totally computer literate, I now am seeking your help in an attempt to find out what I am doing wrong. Any suggestions would be most welcome.

A.M. Galbraith
Kent

Dear A.M. Galbraith
You have the same problem as everyone else with uncrunching the Coverdisks. The problem should go away with Superdisk 35 onwards as that was the first disk of which we could change the content. The problem is the Lha uncruncher is an old version that requires the ARP library.

You are so close to getting things working that I'm amazed you did not take the last little step.

Booting up with the Coverdisk is the best method for you. Have a formatted disk or two ready and put that in your second drive. Run the installer and change the install directory to your second drive when asked. You should not have to worry about the libraries when booting from the Coverdisk.

The errors you mention are caused by not having a program to run!

The other errors, well, they are a bit obvious I think. Workbench full, means that .... wait for it ... that there is no room on your Workbench disk! Get rid of something, but PLEASE only use a copy of your Workbench.

COVERDISK

Dear *AUI*,
I recently bought this month's issue of *AUI* because I thought that the Coverdisks (Superdisks) looked great especially the one with Soundeffect on it. However, it does not work as far as I can see. That is, in the installing process, explained on page 10 you say now select hard or floppy disk: I selected floppy disk for I don't have the hard disk. Your next paragraph was you should now see a scrollable list. But I see a message saying you will need two or three blank disks but the magazine says nothing about this. So when do I need these two or three blank disks?

Daniel McGlynn
London.

Dear Daniel,
PLEASE when writing to Amiga Answers state your problem clearly, and tell me which system you are using.

I expect that you are suffering from the same problem that quite a few others are having. The version of Lha on the Coverdisk is quite old and needs the ARP.library in YOUR Libs: directory. (By the time you read this reply, the Lha on the Coverdisk will have been replaced.)

The installer utility gives you additional information, to that which is printed in the magazine. For safety the installer decrunches the files into RAM: unless you tell it otherwise.

As for the two or three disks, well, I would have thought that the use of these was obvious. Once you decrunch the programs, where are you going to put them? Maybe the blank disks have something to do with this?

COVERDISK

Dear *AUI*,
Could you be so kind as to explai to me how on earth the TOTAL NOV ICE is supposed to use Superdis 32. I Have spent hours trying to g something out of it. I cannot see to get it to do anything. Please coul you explain in great detail how t get addresser on to a blank forma ted disk. The instructions in the ma are assuming know somethin about computers, to a tot DKHEAD like me it means nothin**

I have unarchived some oth cover discs without too many prol lems. This one has me beat. Wher go through the process listed prompts with everything is OK ar completed but it's nowhere to b found. I like the sound of address and would like to use store all name and addresses and hopefully pri this information out. If not cou you possibly let me know suitab program which I could store name and addresses be able to print o individual labels with one name ar address only. Any help or inform tion on above items would be mo appreciated.

Would you know of anyone wh would have the pin switch setting or any info on an Amstrad LQ350 printer? I Have tried Amstrad to r avail.

Mark Hawe
Herefo

Dear Mark,
You have the same problem with t Coverdisk as the other readers w are getting into a fix. I assume that reading Amiga Answers that you ha already sorted out your problem, b just in case:

The problem is caused by an o version of Lha, the crunch uncruncher program. It needs t ARP.library to be in your libs: directo Libs: is on your WORKBENCH disk, the disk that you boot from.

There are two methods of sorti out this problem. The easiest is BOOT from the Coverdisk; that w the correct libraries will automatica be picked up. The second way is copy the ARP.library onto your Wo bench. The installer will do this if y ask it to. (The copy library request select the ARP library and ensure t you change Ram: to libs: installer do the rest. The only problem that c sometimes happen is that you mi have a full Workbench disk. You need to clear out something from y Workbench in order to fit the library You have not told me what system y

A R E N A

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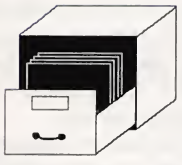

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O186. MIND WARP (AGA)
P100. MOTIV-8
ESP18. BAIT MASKING
SC33. STAR TREK SLIOES (1200 ONLY)
S042. AKIRA SLIDES
C004. SPECTRUM EM OATA OISK 1
D193. WORLO OF MANGA (40I) (AGA)
S042. MADONNA SEX (3D) X
U115. LOCKPICK V2.0
U149. POWERPACKER MINI CLONE
U154. UKOECAY MUSIC RIPPERS '94
U185. GAOJET TOOLS BOX V2.0
U205. AMIBASE PRO II
M148. OELITRACKER V1.36
M155. OCTAMEO 8 MUSIC
M159. SHORT MODS 4
D084. NOVA (1200 ONLY) (2D)
D390. BORON (1200 ONLY)
D190. RETINA EURO 1 (AGA)
P101. DOOP
S019. EAU MADONNA
SC35. NIGHTBREEO (2D) (A1200 ONLY)
S036. SENSATIONAL SLIDES (1200 ONLY)
OC05. SPECTRUM EM GAMES VOL 1
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M106. PROTRACKER V3.01b

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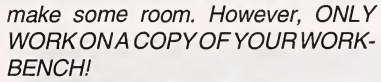
AUI ANSWERS

are using, so I can only make some suggestions at this point.

You should have things like MEmacs, keyshow, graphicdump etc. somewhere on your disk. You could select one or two of these to delete to make some room. However, ONLY WORK ON A COPY OF YOUR WORKBENCH!

I've no idea about Amstrad equipment. Amstrad should be able to help, but if they are unwilling then maybe a letter to an Amstrad mag, or user group would be a better bet.

COVERDISK



Dear *AUI*,
Re: Superdisk No 32
I'm stuck! Booted my Amiga 600, W.B,2, with 2 RAM, 2 drives (floppy). Operative (me), a retired, recently enlisted idiot. (As in fortune no, #128), to computer use, for a variety of interests i.e. Video titling / Digitising etc.

Following the unarchiving procedures as described. Destination via: Show drives, DF1, Selecting Addresser. Ok! to here. Requester asked did I wish to unarchive more? I selected negative! Requester: "Do you wish to install any libraries?" Now this is where you lost me. I tried to copy libraries to the disk on which I had copied "Addresser". I Tried to copy them onto Workbench, which was filled by ARP.library only. Basically I did not know which, if any libraries were needed to run which programme? RE: fortune no,#128!

However, Booting with Workbench, now full. But only containing ARP.library, with DF1: Containing Addresser copy. Icons were obtained. Icon Addresser when selected, opened the programme. BUT. When selecting the other icons. I was told. "Unable to open your tool; C/More".

I have dug around in information etc. But there is nothing that I can understand, to activate these Icons! i.e. Adverts etc.

Working on the Quote "Even idiot's need love". Please be gentle with me, and explain, simply, what went wrong?

John W Hateley
Bedfordshire

Dear John,
Well done!

You have managed to solve a problem: i.e. the ARP.library that you will have noticed that lots of readers have been foxed by.

You are almost there, a little more experience on the Amiga and your other problem would have melted away.

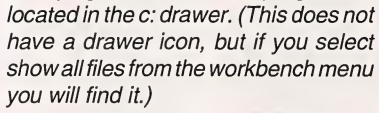
The error message tells you what is wrong, but you don't know the Amiga terminology to decipher it. A tool in Amiga-speak is another name for a program. More specifically it is normally the name of a program the is required by another file in order to run. If you have a text file you want to display it. You might use a text editor and then load the text into the editor to read it. However, you can do all of this in one operation by using the icon tooltypes

Copy one of the icons into the Ram: disk (just to be safe) and then click ONCE on it. From the main Workbench menu select icons/information. A window will open and you will see some information about the icon. One item will be the tooltypes. This will say c:more or something like that. This tells the Amiga that the program required to run this icon is c:more

More is a text reader and you probably have it in your tools drawer. The c: is saying that the more program is located in the c: drawer. (This does not have a drawer icon, but if you select show all files from the workbench menu you will find it.)

What you need to do is tell the icon where YOUR more program is. You might have it on the Workbench disk, in the tools drawer. If so you need to change the tooltype to read Workbench:tools/more. Remember to save the icon information. When you double click on the icon it should be able to find the more program and run.

COVERDISK



Dear *AUI*,
HELP. HELP. HELP!!!!!!! I am having some real bad dreams about UNCRUNCH, to the point of total despair. I have had a 600HD for two years and have bought various mags over this period. Usually the kids insist on the ones with free games which have proved worthwhile.

I first bought *AUI* last month as I liked the format of games, hardware and utility articles plus two "free" disks. PPAINT proved no problem and as the kids were demanding "PACMAN" I followed the "UNCRUNCH" instructions. Everything seemed to be happy and I was instructed where I could find the game. It wasn't there, in fact it wasn't anywhere!!!!

Ok we won't use the RAM disk, we'll use a floppy - same, nothing. Try the libraries yes all dearchived and in correct place - try other files - no hope. Must be a bad disk kids - send it back with description of problem - a few days later new disk and "very sorry to learn that you have had problems." Try again you must be joking no uncrunched files anywhere.

March *AUI* now on the bookstands and on page 94 a fix for my very problem. It's the ARP library kids. First we have to go to COMET to obtain another free disk, six assistants before someone admits to any knowledge of *AUI*, but we do get SUPERDISK 34 without the sales pitch of CD32.

Let's dearchive 34 first no files anywhere AGAIN put ARP lib in our SYSTEM lib drawer no fix!!! Back to disk 32 as bad as ever Sorry kids I tried!!!!!

NOW LOOK HERE For fear of looking a complete fool in front of my kids will you please explain in simple one line qualified instructions how to get these progs on disks 32 and 34 into useable form.

Also if I am expected to visit Comet once a month to obtain my "FREE" disk then I could very quickly go off *AUI*.

I also have no access to "Pretend to Install" the "button" is crosshatch and clicking on has no effect.

M.A.Smith
Basingstoke

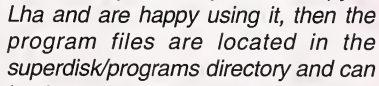
Dear M.A.Smith,
You have correctly identified the problem, the only reason that it would not have worked is that the ARP.library has not been copied into the libs: directory. Check this out with a directory utility or use the shell. Open up a shell, type cd libs: <ret> and then dir <ret> and you should see the files in the libs directory. ARP should be one of them.

That is the problem so other than that I can't think of any reason why things don't work.

The program files are simple .lha archives. If you have your own copy of Lha and are happy using it, then the program files are located in the superdisk/programs directory and can be decrunched like any normal .lha file.

The reason that the pretend to install is cross hatched out is that it is not required. The installer is set to decrunch to ram: by default and gives plenty of messages as to what it is going to do and as such it does not need the pretend option.

OTHER



Dear *AUI*,
I'm a student of the University of telecommunications "La Salle" in Barcelona Spain.

My questions is the following: I bought the A1200 because, here, the computing Amiga press wrote something about an incredible chip the DSP, able to convert the A1200 to 16bits, also modem, fax and no end of promises.

Now a year later, even I don't know something about this one.

Please give me information about the DSP, because the 8 bits are very little for my music compositions.

Now I'm working on a project for to do Radio Packet, with the Amiga, and if you know someone interested in this affair, please send me a report of this one, and even if you know some PD program to run this application like Baycom (for PC) would be very pleased with you.

My last question is the possibilit of connection the A1200 to an H IDE of PC send me instructions c compatibility and the diagram c connections please.

I'm sorry but my English isn good, this is my first year. I believ that in England the Amiga is bette than here who the kings are the PCs

J.R.Urban
Spai

Dear J.R.Urbano,
Your English is infinitely better than m Spanish, which is nonexistent! I dor care about the grammar, or even if th words are used in the wrong contex providing I can understand the problem I'm happy.

DSP, this is vaporware, or if yo prefer a load of hype that some peopl started writing about without checkin their facts.

Commodore NEVER stated that DSP would be used at all. It is always POSSIBILITY, but Commodore don't re lease details about possibilities, they on release information about what is actual available. This annoys some people, bu there are so many variables of cost, de sign and production needs that I thin Commodore have taken the correct ap proach to their announ-cements.

There are 12 and 16 bit soun systems available for the Amiga Wavetools, Toccata and Sunriz products all provide 16bit capability but at a price, both in terms of cost an the fact that they need a zorr expansion slot, so you need a A200(3000 or 4000 to use them.

Packet Radio, well that's easy a you need is a TNC and some software Have a look on the internet at ucsd.ed in the Amateur Radio directory you w find a version of NOS there for you t play with.

The A1200 has the IDE H interface already fitted. You need a 2. inch IDE drive and the sho interconnection cable. Doing th yourself will void the guarantee also b aware that a lot of PC IDE drives ar rather limited in that they do not impl ment the full range of the IDE spe These drives can give problems, it best to check with your dealer first.

If you want to link the Amiga ar the PC together, a shareware produ that will do this is called Twin Expres That links the tow machines via th serial port, and allows file exchange

When writing to Amiga Answers include as much information as possible about your system and about which software/hardware you are running. This will help to determine what your problem might be and its solution!

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Amiga User International
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London W1H 5RF

write to reply

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Dear *AUI*,
So, Multimedia finally hits the Amiga! Or so we are led to believe. I for one do not think so. Take for example your CD cover disk, Multimedia? No, to be truly multimedia would require it to be accessible on Amiga computers, not just CD-32. And speaking of CD-32, since when has that machine ever been supported by more than the games industry? Sure, the add ons have been announced to provide FMV (now you can watch movies!), but where is the serious applications software which the multimedia hype cries out for?

A cynical view, perhaps, but since you replied to those "unfortunates" who own a CDTV and therefore cannot access your "World-First" CD, that more CD-32 units have been sold than CDTV ever did is missing the point. Multimedia should be available to the masses. What about those who own the Amiga 1500/2000/3000 & 4000 with a CD-ROM drive fitted, are they too to be denied access to your CD? (Wise-up chaps, there are more "big-box" Amigas out there than CD32!).

I am running an ageing 1500 with, you guessed it, a Toshiba CD-ROM. OK there are no serious titles out there yet, but running Vista-Pro from the Hard-Disk and being able to access the DEM files from the PC version on CD is what you could loosely class as Multi-Media (i.e. accessible across differing platforms). The point is, if I can do this with a PC CD, why can't I do it with an Amiga CD? It's the same family of computer! And before anyone even thinks about explaining the difference in chip sets, I hasten to add I work within the industry and do know the difference between my Agnus & my elbow!

If you take the PC & Mac owners, they have much more available to them in the way of CD titles, cover disks are now catering for both markets with the ISO 9660 format, and include PC & Mac programs on the same disk! Let's face it, with 660MB to play with, there's certainly enough room to swing a cat! Are we going to be guilty for the destruction of the Amiga perhaps? The old argument that Piracy Is Killing Software, was and is now a reality. But for a machine to be crippled because CD software is only available for one machine is total madness! CD32 doesn't even have a keyboard yet. I know that progress has to be made, but it has taken so long for the Amiga to shake off the "Games Machine" image, and here we are with a virtual console which is fed on CD fodder of the games variety, being heralded as the way forward in Multi-Media!

For your information, not all CD32 software (and I mean games, there exists nothing else) is purely CD32. Not all of it needs the high tech, all singing, all dancing Planar chip! Labyrinth works quite well on a pre AGA machine with 1 Meg chip ram & 68000 as the minimum!

Having spoken to a couple of software houses regarding future developments due to the advent of CD-Software, I can only hope that they keep to the promises. Just think, DTP (or any serious application) software on one CD, everything you need clip-art, fonts, templates... It's all possible.

These are trying times, we have (at last) gone away from the old "My computer's better than yours" argument, and I do not wish to own a CD32, I'm happy with my present machine, but it would be a nice gesture if (for the sake of the CDTV owners) you could somehow squeeze the second cover disk onto the CD. Lets face it chaps, there's 400MB spare, surely it will fit.

K.P. Kitching
Wakefield
W. Yorkshire

Dear K.P.Kitching,
Now who was it is in "Alice in Wonderland" who said that a word meant whatever they wanted it to mean? Not K.P.Kitching shurely... (Don't call me Shirley..) No, that wasn't the name, but you seem to believe that you cam put any meaning onto the word "multimedia". The word doesn't mean "accessible to all Amigas" as apparently you think it does. What it does imply is all sorts of nice media mixed in together - you know like one of those exciting parties that Conservative members of parliament seem to be caught at and have to resign over. That's multimedia? No, of course it isn't. That's an orgy, but then compared to what once was available on 8 bit machines not so long ago that's what we're getting now. Moving pictures - video and film -, sound, graphics, text, music. You name it and it's multiplied media ... and it's on our CD.

*In fact, **AUI** tried it years ago on a floppy using Hyperbook, but it took up so much space that we discontinued it. Now, the lucky CD 32 owners can enjoy something that is close to a TV programme on their disc.*

But, I'm pleased to say, the instant I make a statement, technology proves me wrong - and in this case you are proved right. There was enough room on the disc this time to include material for CDTV and A570 - or no doubt some bright CD-ROM owners like yourself. And some of the technical problems have been overcome to allow both CDTV and CD 32 stuff to live happily together. But, as the Editor commented in the last issue, there are still some technical hurdles to be leapt though. So I wasn't entirely wrong. Which is a bit of a bolster for my damaged ego. (Never having been wrong before in my life, of course... Or so I'm told I give the impression!)

And, almost in answer to your very own comment, there's Labyrinth on the very disc of this issue and playable both for CDTV and CD 32s. Well, what about that?

Yes, programs like Labyrinth show what can be done by top programming talent and we will, I am certain, see the CD - the multimedia CD - bring you all the DTP and other applications you can handle. All in good time... You can't hurry technology, as we well know after trying to put out a CD in a month, but also you can't stop it.

Dear *AUI*,
I was impressed with your magazine which was bundled with my CD32 Console back in November. I subscribed as the offer was too good to refuse. I was well happy when my first issue came crashing on the mat but I've got a few gripes. You seem to be reviewing too many straight conversions. Obviously, I know there's a lot on CD32, but with you being the only CD32 magazine surely you should be telling the owners about games of the future as you should get the information first from the software houses.

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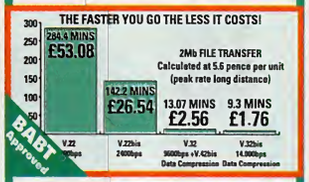

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write to reply

→ I am also very distressed that you have decided to use your magazine inside *AUI*. Is this because you are shy about how many pages you've got on them? I believe that if you were to break away from *AUI* people would still buy it. And why? Because of the great CD Disk on the front. It sells itself. If you don't I hope I'm not right, but the rumours could be true. CD! Magazine could be doomed.

I would like to know if there are any plans for a boxing game on CD32 because on all Amiga formats these games are naff and could be a great asset on CD. Can I have a chance to review some of the games in your magazine?

Please print this as I'm a fan and a subscriber, grovel, grovel.

GOOD LUCK TO ALL AMIGA CD! TEAM.

J. McKay
Middlesbrough
Cleveland

Dear J. McKay (Why does nobody give their first names any more - have I been getting too familiar with you?)
The idea of launching the "World First" interactive magazine was, as has been said, to give more people than just those already in possession of a CD 32 the opportunity to see the wonder of the compact disc based Amiga in all its multimedia splendour.

The response we have had seems to both confirm that the idea has been very successfully received and also that there is room for an independent CD magazine too.

When your letter was written no-one except us had brought out a CD-based Amiga magazine. Since then two have appeared and frankly from the correspondence we have had it seems that most Amiga CD! readers think they're rubbish - an opinion with which I am in substantial agreement. (Surprise!)

Why are they rubbish? Well, as the Editor says, somebody called them "Just a big floppy" which seems a pretty handsome waste of the CD 32's abilities.

Conversions? What we receive is what we can review. We'd like to have loads or marvellous new multimedia blow your socks off games but though we scour the horizons and the garbage cans of the games companies, none can we find. Are they hiding them? I think not. It just takes lots of time expertise and cash to produce really new chunks of multimedia entertainment, especially boxing games! (Of which, as yet, we have heard nothing.) But if we hear of one - or you do - I will ask the Editor if you can review it!

Dear *AUI*,
I was initially very pleased to see the inclusion of a CD on the cover of *AUI*, but after further investigation there was little on the disk for non gamey users. Could you not include on the CD something for users of CD ROMs other that CD32 users? Could you not, say, include the second disk arced down on perhaps a DMS file of it, or include some med samples or fonts on it. Looking at PC CDs, it seems the Amiga market falls behind again and just gets a disk full of games.

Apart from that I enjoy the mag though would like to see you cover Comms a little more in the pages.

Paul Compton
Fareham
Hants.

Dear Paul,
Say not the struggle - or the letters - naught availeth.. On the CD this time you will find the previous SuperDisks some readers may not have been able to get and also some other "techie" stuff. And this is just the beginning.. We hope in future always to have a "techie corner", though we may have to hide it from the out-and-out games warriors! And comms is on the way.

Dear *AUI*,
In reply to James Carter's letter (May Issue), in which he suspected Comet staff tampering with his CD, because of the faulty Microcosm demo. My demo also did the same, much to my annoyance, but the solution is simple; merely switch on the CD32, not just resetting it and make sure that there is NOT a CD in the machine; wait for the presentation screen and wait for a few seconds, and then place the demo disc in the machine and then head straight for the Microcosm demo which should now work perfectly. This also applies to any of the free full games on the CD.Finally when the hell is Jurassic Park coming out on CD32, it was advertised well before Christmas and still no sign of it.

Keep up the good work involving the cover CDs.

Ian Trushell
Grimsby
South Humberside

Dear Ian,
Thanks for the tip. It appears the reason why those sort of problems arise is that some games are hungry for chip RAM and what, in effect, you are doing when you carry out what you suggest, is flushing the memory successfully. Good on you for doing it too!

And as for successful memory flushing, Ocean, the only begetters - apart from Spielberg - of Jurasssic Park could do with a reminder, you're quite right. But for them, the problem may not be entirely technical - or not in the technology sense. Allegedly - Ashley Cotter-Cairns' favourite word these days - the problem is more a legal - or financial - one than to do with RAM stuff. Allegedly (!) when they signed the deal with Spielberg's people, Ocean did not include the CD 32 format which was just a twinkle in CBM's eye at that time. So when it came to it, the CD 32 format, allegedly, was not covered by the contract. We don't know yet whether the problem has been sorted out. We are asking, but as yet have had no reply. Watch this - or rather some other in this magazine - space for news.

Dear *AUI*,
Your answer to Wayne Mumper's letter in the March/ April, 1994 issue regarding "Printers" couldn't have been be answered more appropriately.

I have upgraded my computer and other Amiga products and software many times, always after reading magazine reviews. I recently upgraded my printer to a Canon BJC 600 only after reading magazine reviews. By using this method before a large money outlay I find that there is less chance of being disappointed with my purchase.

I buy *AUI* as soon as it hits the bookstores because of the reviews and the useful utilities that you package with the magazine. Magazines that attach game demos leave me cold. I am not saying that they should not be produced, just that they are not for me. I would rather read a review and decide if the product addresses my needs.

As long as you continue to publish *AUI* in its present format I will continue to purchase it, address criticisms of readers as the above mentioned and I will move on.

Wayne Stevenson
St. Catharines
Canada

Dear Wayne,
The Canadian loyalty of Commodore - which after all started there some 35 years ago, has always been strong - and from my experience pretty sensible too. You're right. The way to buy things is both to read as many comments from those reviewers or publications you respect as you can. And also, if it's possible, go and try it out or find someone who has what you're thinking of buying and get them to tell you what they think of it and even have a go at it under normal conditions.

There is in the UK, ICPUG which can do a great job in giving advice to Amiga users and, if my memory serves me right, there used to be an excellent users group in Canada, in Toronto, called TPUG - is it now TBAG? - that provided a great deal of help to Commodore users.

Wherever you go in the world there is generally a Commodore or Amiga specific user group and they are very useful in helping out.

*It's nice to know that you find **AUI** so interesting - and it's a great pleasure for us to hear from people, and we know there are plenty of them, who look forward each month to that very individual animal which is not like any other Amiga magazine, Amiga User International. Long may we, and your Cannuck bookstores, give you what you want.*

Dear *AUI*,
I think the idea of putting a CD on the front of your mag is a great idea, but possibly the

choice of stores is not quite so hot.

I live in Kensington in London (it goes with the job), great if you want to buy designer clobber at designer prices, but not so great if you need a Comet store or a Rumbelow shop. Anyway I travel to Doncaster every couple of weeks or so, on my last two trips I called into Comet only to be told "Sorry, we don't have any *AUI* disks left, but we are expecting some in"! Now after two trips and one phone call later I have given up all hope of getting Coverdisk 34.

In the meantime I spy the May ish' of *AUI* lurking behind Girlie Monthly. This time the paper trail was to take me to Rumbelows, well can you imagine the way I felt (I'm sure there's a song there somewhere), when I tracked down the store only to find it closed and I don't mean for lunch. I mean lock stock and barrel, gone, moved, packed up their spotted hankies and sloped off into the sunset. Now I am two disks down.

Please, please can you pick a store for your next CD that even Kensington has, i.e. Dixons, Tandy or even ...NEXT, there is always one of those in every High St.

Looking forward to the next installment just to see where trail leads. Keep up the good work and if... you could see your way clear to sending me the missing disks I would be eternally grateful.

Alan Martin
Kensington

Dear Alan,
It's not an easy world it it? Even for those who roost in fashionable parts of London! We hope that Comet have learned their lesson. They didn't actually ask us for any more disks or we would have made sure that they received some and been able to give you what you wanted. But anything new in this country seems to cause concern and confusion. Is there something odd about the UK? In most other parts of the world, they don't suffer from "The Shock of the New" as it has been described. They get themselves involved in it. Do you think it is too much to ask to get chain stores involved too? It should be possible after all it isn't exactly putting a man on the moon, is it?

But because we felt you've got a point and we don't want to see you do without, by the time this letter is read you should have received the missing disks. Enjoy them in sexy, trendy Kensington - and try asking in NEXT for the next disk...

Dear *AUI*,
Like Mr. P. Budd, I too was disappointed to find that your first cover CD would not boot up on my A570. Trying this only resulted in the CD-ROM drive thinking the CD was an audio disc, presenting the audio player screen and allowing me to listen to the four music tracks on the disc.

After loading Workbench on my A500 Plus (2 Mb chip RAM), it was possible to access the files on the CD and run the free PD games by double-clicking their icons. Also, some of the images were viewable using Viewtek (from the *AUI* coverdisk of April 1993) but the majority refused to show, presumably because they are AGA pictures.

In an effort to get the CD up and running, I opened a Shell and entered "Player Amiga_CD_1.int" (this being the last line in the startup-sequence), having first changed directory to CDO:. I was pleasantly surprised to see the Amiga CD! logo fly onto the screen followed by the introductory voice-over and the main menu.

From here it was possible to access most of the items on the CD, with the exception of the AGA pictures, and the demo games, which caused the machine to crash and reset. Even the 1/4 frame video editorial of Ashley Cotter-Cairns loaded and ran but, while Ashley carried on speaking to the end, his lips stopped moving about half way through when the video froze.

Having determined it wasn't impossible to get some use out of the *AUI* CD, I was looking forward to seeing at least part of the May issue CD, especially the video sequences. Alas, improving the "multimedia marvel" may have CD32 owners jumping for joy, but regrettably for A570 owners (yes, I know it isn't meant for us anyway) it means less compatibility. Loading the main menu is again possible by typing "Player Am_CD2.int" at the Shell, but that is about as far as it goes this time. Trying to access the menu options just results in no response or a crash.

Ah well, I guess we who bought A570s instead of CD32s (because we couldn't afford them) will just have to make do with PD and Demos. I just hope we don't have to put up with hard-sell sales people each month just to get our Utilities disc.

Barry Cutler
Beckenham
Kent

P.S. Any chance of Superdisk 34 - I never got around to going to Comet.

Dear Barry,
I always thought that our readers were smart. Yes, Uncle Andy Eskelson would applaud your ingenuity and I'm dazzled by it. But do not despair, life is getting easier for you - if a mite less challenging. It's clear you like solving problems but on the CD, as I mentioned earlier, this time you will have a special section for non-Amiga CD 32 users. And that, I'm glad to say means you.

And by now you should have received the disk you so richly deserve.

Dear *AUI*,
Q. When is an Amiga CD not an Amiga CD?
A. When it's an Amiga CD!

I was pleased to see *AUI* issue a CD as I have an A570 and a CDTV, either of which can be connected by Parnet to my A1200. Quote a few CDTV titles work on the A1200 so I was disappointed to find that yours was not compatible. All it would do is play some music on the CDTV, or using Parnet, the graphic and sound files could be accessed. Why was it not Workbench compatible? The Almathera CDTV PD titles have three versions of Workbench on them to ensure compatibility.

If you had advertised it as a CD32 CD then perhaps I could have understood, but you didn't! I do not need to go to Comic warehouses to see what a CD will do so I will not get my Superdisk 34 (anyway I would prefer to keep the CD in case it becomes a collector's item! Why could the Utilities not have been included on the CD? There's plenty of room as many of the picture IFFs are repeated in several directories, or an audio track could have been left off.

I trust you will reconsider your policy on your CDs as I have no intention of getting a CD32. My A1200, or even A500 is far more useful (try running ProPage or ADPRO on the CD32, I'm sure problems would be encountered like lack of memory, hard drive etc. etc.).

John Kendrick
Ilford
Essex

Dear John, (Did you once live in Frome in Somerset - I knew a Kendrick from there?)
*As you will read above, we took your and the other non-CD32 users cries of frustration to heart and Shazam! Out from the **AUI** telephone box the SuperDisc emerged complete with its A570 and CDTV underpants outside its CD 32 long johns! I hope you like the new "compatible" disc.*

Dear *AUI*,
My son, Jon, found your magazine in Sacramento, California. We are delighted with it. For $10.00 we got the magazine, your first CD cover disk and Superdisk No. 33. Good value for money. Thank you.

We bought a CD32 last Christmas from Canada and don't have much to use on it. The CD32 is now making a belated appearance on the US market. Commodore is using the new "stealth" or "secret introduction" marketing strategy. Nobody knows the CD32 exists, except the Amiga press, and Amigaphiles.

We have seen some mention of it in non-Amiga games magazines where articles discuss future hardware. However, the thought of a magazine such as yours - dedicated solely to Amiga CD - is beyond the realms of possibility here.

Two questions:

1) Is it possible for us to buy Superdisk No. 34? No. 33 came with the magazine, but we want No. 34.

2) Would you advise us to continue buying your magazine here, or would it be better to get a subscription with you?

One more question: Do you have a list of previous disks that might still be available? In your magazine (March/April 1994 page 14) you mention we can get the cover disk for £1.00. I doubt that would include overseas readers. I'm reluctant to buy an International Money Order for £1.00 only. If I saw some disks I wanted on your list, I could place a larger order.

I'm editor of a magazine, so I know you don't have a lot of time to answer letters. You

write to reply

have to get the magazine out! Those deadlines are relentless. But we would love to hear from you about Superdisk No. 34.

Thank you. Keep up the good work.

Roy Gee
Applegate
California

Dear Roy,
It's a great honour to have an editor of another magazine write to us and yes, it was just an international order of £1 we were asking for. The sum is a nominal one simply with the idea of stopping non-serious requests but we are happy to send one to you - in fact one has already been mailed this time without charge.

I love your description of Commodore's marketing technique, "stealth" like the fighter..

Yes, we have sometimes wondered whether they deliberately have gone out of their way to do it wrong but no, human beings, especially those in the computer world have an almost unlimited capacity for blowing even the most stone cold certain of opportunities. What is the old saying "To err is human but to really cock it up you need a computer."?

Actually I don't think it's the right way round. Computers go wrong only if the humans kick them into it... And even without computers humans have always been capable of world shaking and frequently fatal cock ups.

We certainly can, if any one wants them, supply disks from the past and we have plans to make that easy for readers. Once again watch this space.

*I can't give much advice on the future supplies of **AUI**/ACD! in North America. That possibly depends on the continuing loyalty and buying power of Amiga users there - and even the continuance of Commodore on this vale of woe.. But a subscription would make sure you get a copy and is the only certain way of getting a regular supply of the magazine. (Or should it be "fix"? From some of the letters I get it seems that some readers need it that badly each month - and I AM talking about **AUI**!)*

Dear *AUI*,
I would first like you to pass on my thanks (once again) to Andy Eskelson for all his help with a recent problem I had with my Cub Scan monitor. Nothing he sent me was able to remove the "Screen Offset" problem as it appears to be a design fault with the monitor, but I can't thank him enough for his help. He is a credit to the team.

I am writing to comment on this month's issue. I like the way that you have taken Multimedia very much to heart. I feel that this area is a major breakthrough for computers. My only moan is the fact that all the major magazines appear to be on "The Magic Roundabout" in the way that they are repeating the same type of review - MediaPoint - Helm - Cando - Scala - MediaPoint - Helm - Cando - Scala, and around they go again. The problem is that nothing new appears to come out in the reviews. I would very much like to see *AUI* take multimedia much further. By this I mean why doesn't someone tell readers how to link a CD Rom to their machine using the correct cable and software, as well as showing them how to transfer files etc. Also, if people are using this type of software to produce "CD size" titles, why have no contact points been printed. I would like to see names and numbers listed, so that if I wanted to, I could contact someone to produce a CD for me. Just a small query, but why has no review been done on Interplay. I know that it is very expensive, but I have been told that it is a great package.

I am looking forward to the release of a CD player for the A4000, but as yet I have purchased a CDI, which I have to say is great and I can't fault it in any way. FMV films are superb, and while the quality is not quite as good as my laserdisk player I have no doubt that as soon as a 1gb re-writeable disk is produced for this use, then video is a dead duck. The sooner the better.

One section that I would like to see in *AUI* is a contact corner. I write software for CLR and local Schools, some of which you may have had a laugh at -

The Prehistoric Funpact
Peg A Picture
My Little Artist
Understanding Amos 2

and there are many times that I would have liked some help with such projects, but have been unable to find an artist, etc. There are so many great pictures and modules sent to the magazines, but there is no way to contact any of the people who have produced them.

One final point - Is there any chance of producing a "Multimedia Cover Disk" which would be filled with Pictures - Sound Samples - Clip Art - Anims - and PD software such as Dsound that could be used by the MM creator.

Thanks again for a great mag and keep up the good work.

Stephen Bennett
Dudley
West Midlands

Dear Stephen,
A lot of points here:

First, I don't know how you came to miss it but we did review Interplay - and used it to help create the first two CDs. Though we've gone to CanDo for this issue's CD. And thanks to Innovatronics for their help too.

I don't quite get your point about all those authoring systems. We have reviewed them all and given them plenty of attention. In this issue's CD, for example, we are going back and covering Mediapoint again as there is an important update.

As for creating a multimedia disc, what we hope to do is give enough information to let anyone have a go for themselves but if you really want someone to help you, contact us and we can put you in touch with the right people - though I must warn you that multimedia at a professional level can be an expensive affair.

*As for a CD drive for the 4000, well, I can't tell you when but there is some encouragement from the CD drive for the 1200 which we are reviewing in this **AUI**. If they can do it for the 1200 why not the 4000?*

CD-I? What are you doing with that 16 bit stuff? You could play the movies on the CD 32 with an FMV cartridge and have the benefit of all the luscious Amiga technology - 32 bit at that.

We're sorry if the contacts you want have not been included we generally manage to get them and put them in.

And as for graphic disks - or discs - and other PD-style stuff, well, there are some very good discs of that kind that have come from Almathera (Tel: 081 687 0040) but if there is anything we can find that will be suitable for the material you want we will do what we can to get it on a disc - and put it on the cover.

And you're an Andy Eskelson fan? So are we all!

Send your letters to:
Write to Reply
AUI
Amiga User International
48 George Street,
London W1H 5RT

If you wish to send an Email letter to Write to Reply or Amiga Answers, ***AUI*** can be contacted on CIX as **Amigauser@compulink.co.uk**

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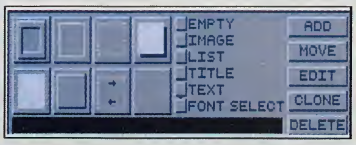

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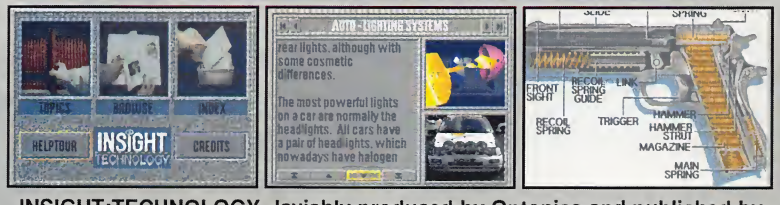
INSIGHT:TECHNOLOGY



INSIGHT:TECHNOLOGY, lavishly produced by Optonica and published by Commodore gives a fascinating look at modern day technology with pictures, animations, photos, video, narration, text, music and sound effects, over 260 topics in all,every one with a wealth of multimedia material, bringing each subject to life as never before Subject range from the ball point pen to the space shuttle.

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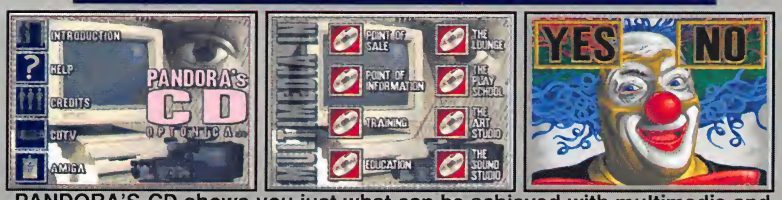
PANDORA'S CD



PANDORA'S CD shows you just what can be achieved with multimedia and your Commodore CD system, an all original promotional disc containing something for everyone, Five Senses production, the Nuclear industry, number counting game, Milton Keynes guidebook, jukebox, clipart library, photo library, textures library, sound effects library and a sampler of INSIGHT:Technology. Sample the wonderful world of Optonica multimedia.

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